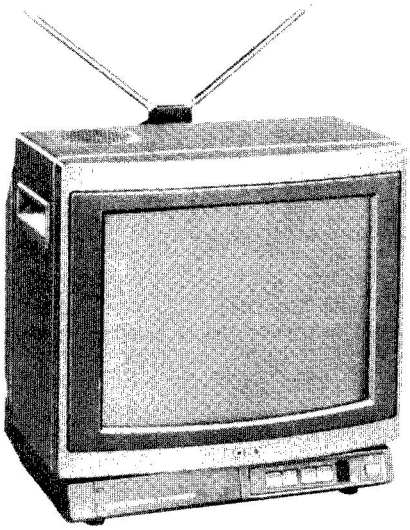
KV-1442
RM-651

SERVICE MANUAL

Model

Chassis No. SCC-788A-A



July, 1986

XE-5 CHASSIS

Note: The service manual for RM-651 has been issued separately.

SPECIFICATIONS

Television system	CCIR system B, G and H
Color system	PAL/SECAM
Channel coverage	VHF channels E2 – S20 UHF channels E21 – E68 (a total of up to 30 preselected channels)
Picture tube	Trinitron tube Approx. 36.8 cm (14 inches) 90 degree deflection (Approx. 33.7 cm picture measured diagonally)
Antenna	75-ohm standard coaxial socket VHF telescopic antenna (supplied)
Speaker	7.5 cm dia.
Audio output	1.5 W
Input/output	21-pin connector, Euro AV with the requirement of CENELEC standard
Power requirements	220 – 240 V AC, 50 Hz
Power consumption	69 Wh 16 Wh in standby condition
Dimensions	Approx. 366 × 356.5 × 408.5 mm (w/h/d)
Weight	Approx. 11.7 kg

Accessories supplied
- Remote Commander RM-651 with 2 batteries (IEC designation R6, size AA)
- VHF telescopic antenna (1)
- Antenna connector (300 – 75 ohm matching transformer is built-in.) (1)

Optional accessory
- Teletext adaptor OPK-113
- Connecting cable RC-113

Design and specifications are subject to change without notice.

MICROFILM

TRINITRON® COLOR TV

SONY®

CTV

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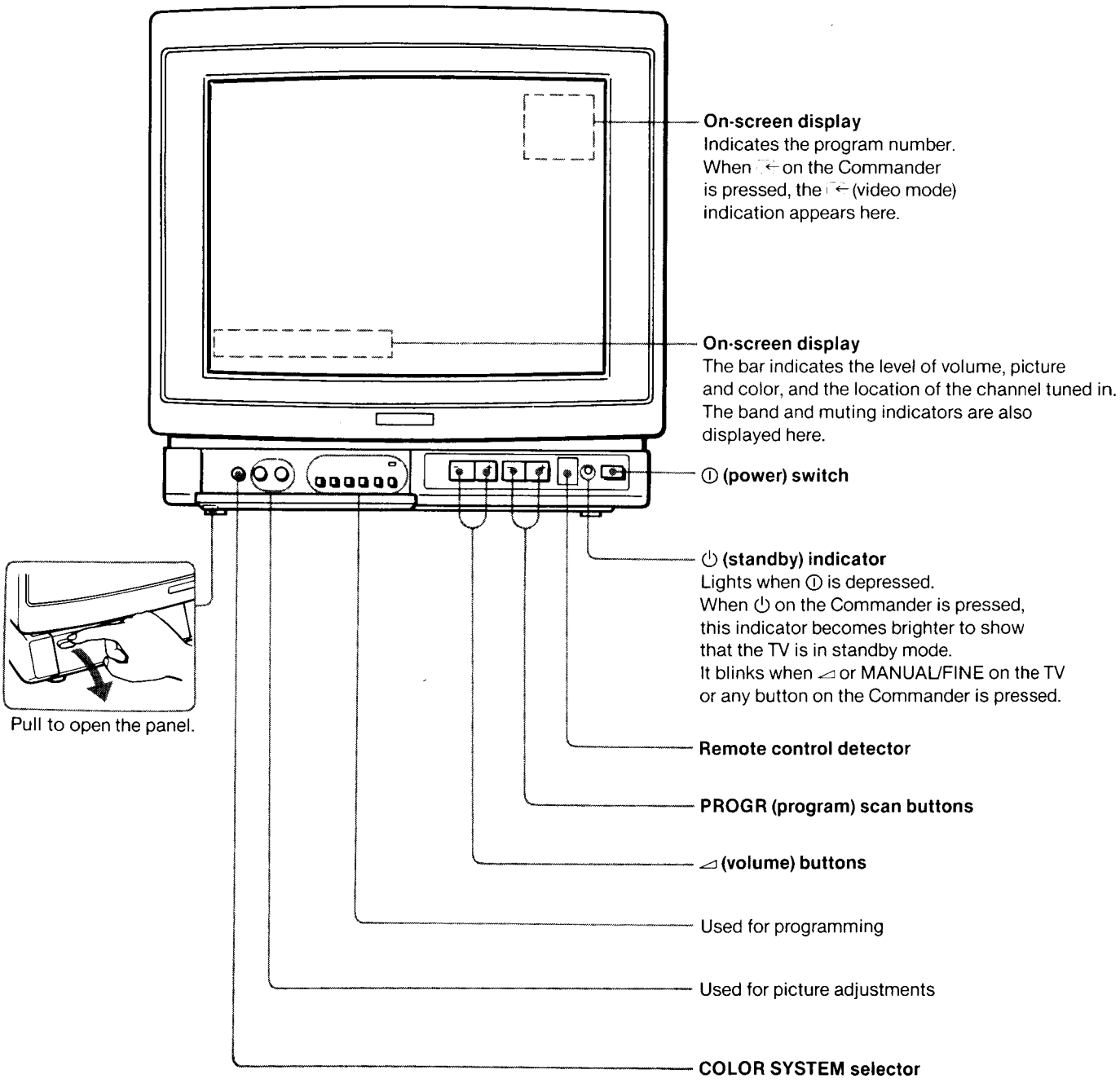
SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

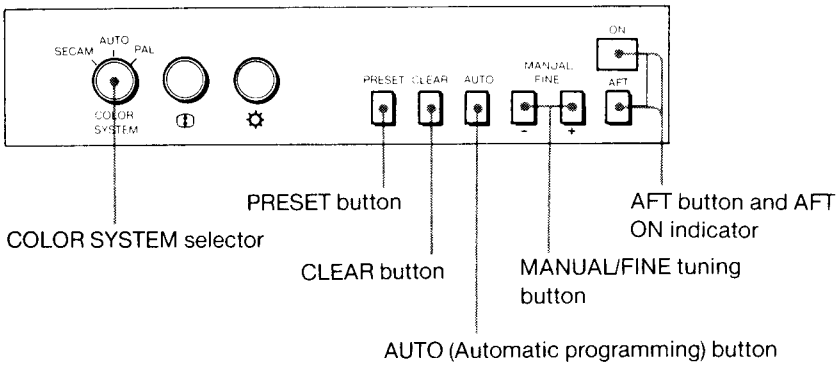
1-1. LOCATION OF CONTROLS



1-2. PROGRAMMING

Automatic and manual programming are available. Automatic programming presets up to 30 receivable channels automatically from the lowest frequency to the highest. With manual programming the active channels can be preset in any desired sequence.

Panel opened



AUTOMATIC PROGRAMMING

1 Depress ⏻.

2 Press ← on the Commander if the ← indication is displayed on the screen.

3 Make sure that COLOR SYSTEM is set to AUTO.

4 Press PRESET (ON) to set the TV in the programming standby mode. The program number will blink and the band indicator will appear on the screen.

5 With PROGR +/– or the program number buttons on the Commander, select the program position from which automatic programming begins.

6 Press AUTO.
Automatic programming will start to tune in all receivable channels in sequence. When no more station can be located, the program number from which the automatic programming started will light on the screen and automatic programming will stop. The programming mode will be cancelled automatically.

MANUAL PROGRAMMING

1 Depress ⏻.

2 Press ← on the Commander if the ← indication is displayed on the screen.

3 Make sure that COLOR SYSTEM is set to AUTO.

4 Press PRESET (ON) to set the TV in the programming standby mode. The program number will blink and the band indicator will appear on the screen.

5 Press PROGR +/– or the program number buttons on the Commander to select the program position where a channel is to be tuned in:
+ for a higher-numbered position, and – for a lower-numbered position.

6 Press + or – MANUAL/FINE.
The first channel found will appear. Every time you press + MANUAL/FINE, a higher-numbered channel will be tuned in and every time you press – MANUAL/FINE, a lower-numbered channel will be tuned in. Repeat pressing until the desired channel is found.

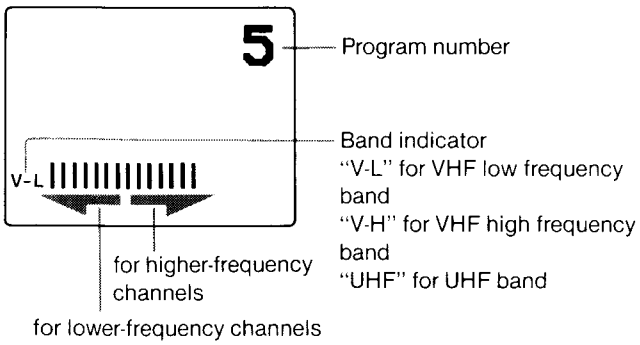
Repeat steps 5 and 6 for all desired channels.

7 Press PRESET (OFF).

To reset the TV to the lowest frequency of the band, press CLEAR when PRESET is set to ON.

ON-SCREEN DISPLAY WHILE TUNING

The band in which the channel is being tuned in and a bar will appear. The length of the bar shows the approximate position of the channel being tuned in within the band.



FINE-TUNING OF A WEAK STATION

If the picture of a particular channel is not acceptable, make sure PRESET is set to OFF (the band indicator does not appear on the screen), and keep + or – MANUAL/FINE pressed until the picture becomes clearer. When either MANUAL/FINE is pressed, the automatic fine tuning on the selected channel is deactivated and the AFT ON indicator goes off. To view this particular channel, keep the automatic fine tuning deactivated. (Do not press AFT.) When other channels are selected, the automatic fine tuning activates automatically.

SKIPPING UNUSED PROGRAM POSITIONS

1 Press PRESET (ON) when the program number display shows an unused position. The program number will blink.

2 Press CLEAR.

3 Press PRESET (OFF).

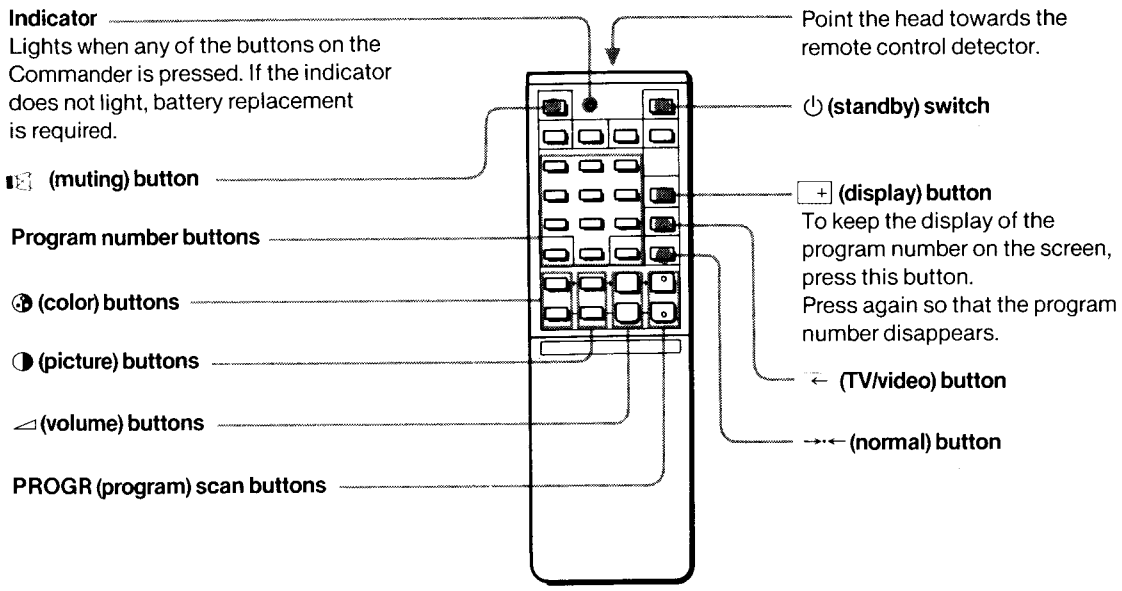
Later, when you press PROGR +/–, the unused positions will be skipped.

1-3. OPERATION

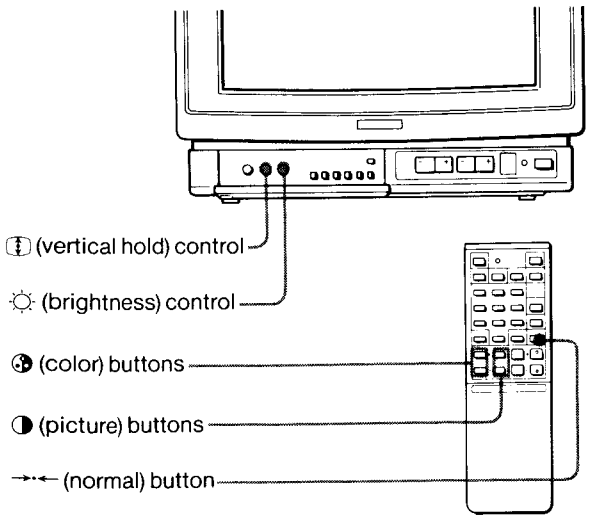
VIEWING TV PROGRAM

Usually the Remote Commander is all that is needed to operate the TV in everyday use.

RM-651 Remote Commander



Picture adjustments

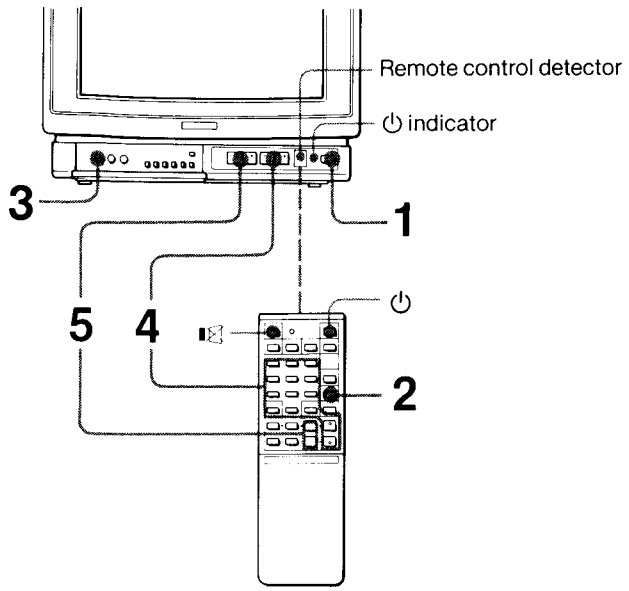


Press ◑: + to increase picture contrast or – to decrease it.
Press ◉: + for more color intensity or – for less color intensity.
When ◑ or ◉ on the Commander is pressed, the bar indication will appear on the screen; longer as the + button is pressed and shorter as the – button is pressed.

Turn ☼ clockwise for more brightness or counterclockwise for less brightness.
Turn ⊕ to stabilize the picture if it rolls veritcally.

To return the picture contrast and color intensity to the factory setting, press →·← on the Commander.

Operation



1 Depress ⏻ to turn on the TV.

2 Press ⇐ if the ⇐ indication is displayed on the screen.

3 Set COLOR SYSTEM to AUTO.
In case the color is not displayed correctly, set COLOR SYSTEM to PAL or SECAM according to the color sytem being used.

4 Pointing the head of the Commander towards the remote control detector on the TV, select the TV program in either of two ways:

- **Press the program number buttons.**
  For 1 through 9, press the corresponding single-digit button.
  For 10 through 19, press "1–" for the tens-digit and then the corresponding single-digit button.
  For 20 through 29, press "2–" and then the corresponding single-digit button.
  For 30, press "0".
  If you do not press a single-digit button within several seconds after pressing "1–" or "2–", the previous program position will be recalled.

- **Press + or – PROGR.**

5 Adjust the volume by pressing + or – ◿: + for more volume and – for less volume.
When ◿ is pressed, the bar indication will appear.
The bar will be longer as the + button is pressed, or shorter as the – button is pressed. The indication will disappear when the button is released, then the setting will be memorized.

To set the TV to standby mode, press ⏻ on the Commander.
The ⏻ indicator on the TV will light brighter. When the TV is in standby mode, you can turn on the TV by pressing any of the program number buttons on the Commander.

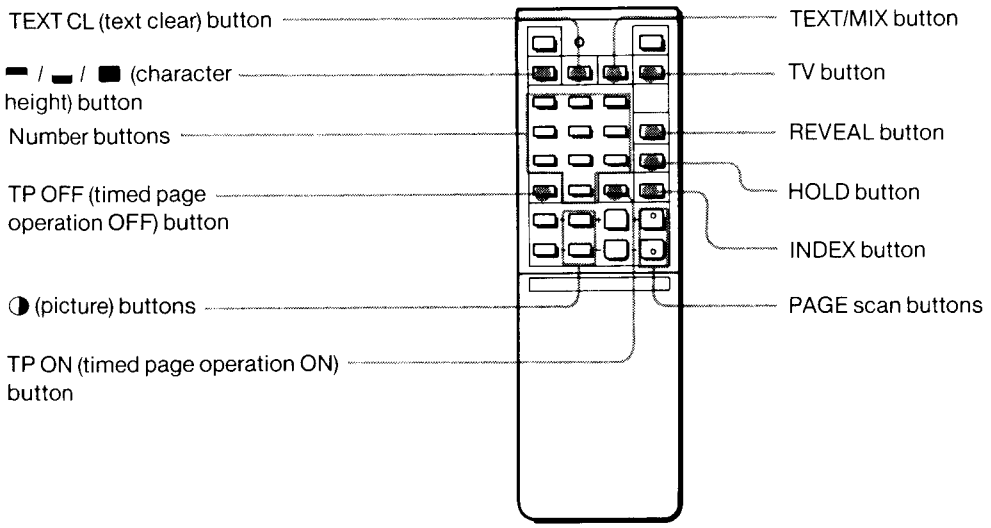
To turn off the TV completely, press ⏻ on the TV.
The TV can no longer be operated with the Commander.

To mute the sound immediately, press 🔇.
The 🔇 indication appears on the screen.
Press it again to restore the sound.

Note
To view the picture of the equipment connected to the 21-pin connector, press ⇐ so that the ⇐ indication appears on the screen. Then, operate the connected equipment.

VIEWING TELETEXT

The teletext service can be received by installing the optional Sony OPK-113 teletext adaptor with the optional Sony RC-113 connecting cable.
The buttons on the Commander used for teletext operation are indicated in green.



Operation

1 Select the TV channel for the desired teletext service.

2 Press TEXT/MIX to display the teletext service.
Once TEXT/MIX has been pressed, the TV channel cannot be changed.

3 Key in the three digits for the desired page using the number buttons. If an error is made, complete the three-digit sequence by keying in any digit. Then, re-enter the correct page number.
The requested teletext page is displayed.

To return to the TV mode, press TV.

The teletext service can be displayed directly from the standby mode, by pressing TEXT/MIX.

To receive the teletext service of a different TV channel
1 Press TV to return to the TV mode.
2 Select the desired TV channel.
3 Press TEXT/MIX.

Notes
- To receive the teletext service accurately, keep AFT inside the panel switched on during teletext operation.
- During teletext operation, do not input the RGB signals from the equipment, such as a microcomputer, connected to the 21-pin connector.

To display the index page
Press INDEX.
If the necessary signal is not being broadcast, page 100 is displayed.

To rapidly access the next or preceding page
Press PAGE + or PAGE –.

To superimpose the teletext display on the TV picture
Press TEXT/MIX.
Press again to return to the TEXT display.

To suppress the teletext display so that the TV picture is displayed
Press TEXT CL.
This button can be operated from both the TEXT and MIX displays.

To prevent a teletext page (subpage) from being updated/changed
Press HOLD. "HOLD" appears at the top of the screen.

P102 HOLD

To resume normal teletext reception, press TEXT/MIX.

To enlarge the teletext display
Press ▬ / ▂ / ■.
Press once to enlarge the upper half of the display; press again to enlarge the lower half of the display; press again to return to the normal display.

To reveal concealed information such as the answers to a quiz
Press REVEAL.
Press again to conceal the answers.

To adjust the contrast of the teletext display
Press ◑.

To watch the TV program while waiting for a requested page to be displayed
1 Request a new page.
2 Press TEXT CL to watch the TV program. The requested page number appears at the top left of the screen.

When the requested page has been captured, "FOUND" (or if the requested page is a subpage, "UPDATE") appears at the top of the screen.

P101 FOUND
(TV picture)

To view this page, press TEXT/MIX.

To have a requested page displayed at a predetermined time
1 Request a time coded page (e.g. alarm page).
2 Press TP ON.
"T**:**" will appear at the top of the screen.

P196 T**:**

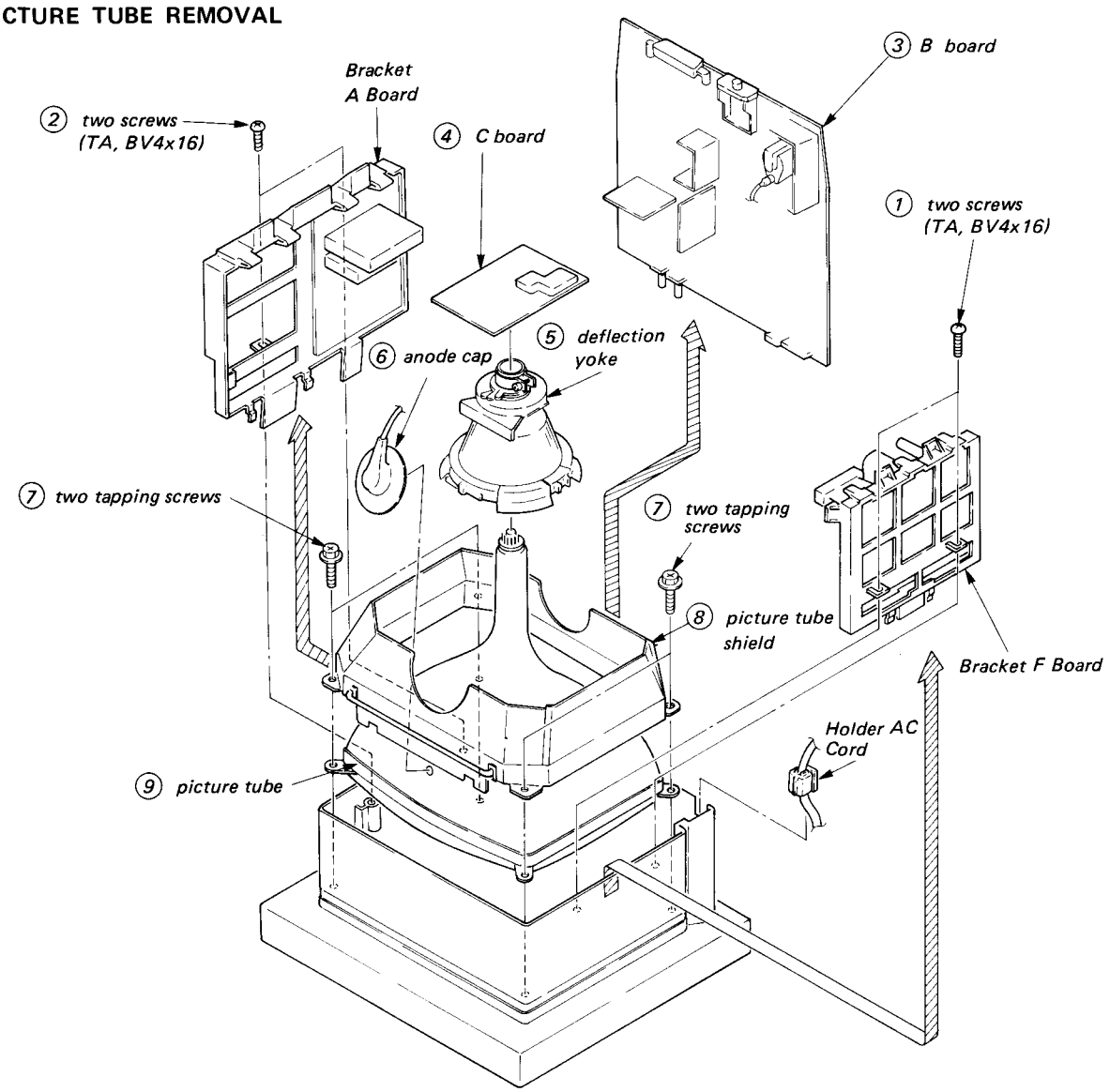
3 Enter your request time with the number buttons, using four digits.
For example, 07:30.

P196 T07:30

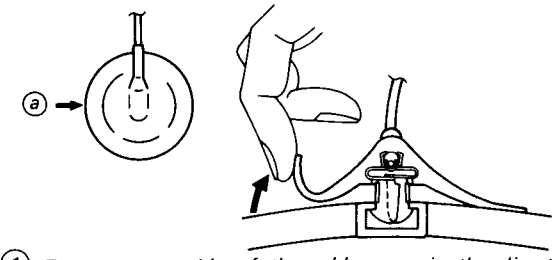
To watch the TV program until the requested time, press TEXT CL.
At the requested time, "FOUND" (or if the requested page is a subpage, "UPDATE") appears on the screen.
To view this page, press TEXT/MIX.
To cancel the request, first ensure that the teletext page is displayed, then press TP OFF.

SECTION 2
DISASSEMBLY

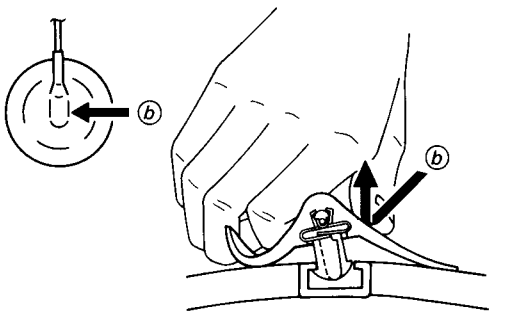
2-1. PICTURE TUBE REMOVAL



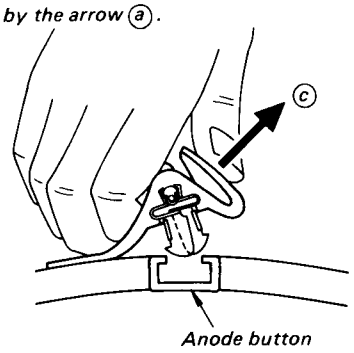
- **Removing Procedures**



① *Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.*



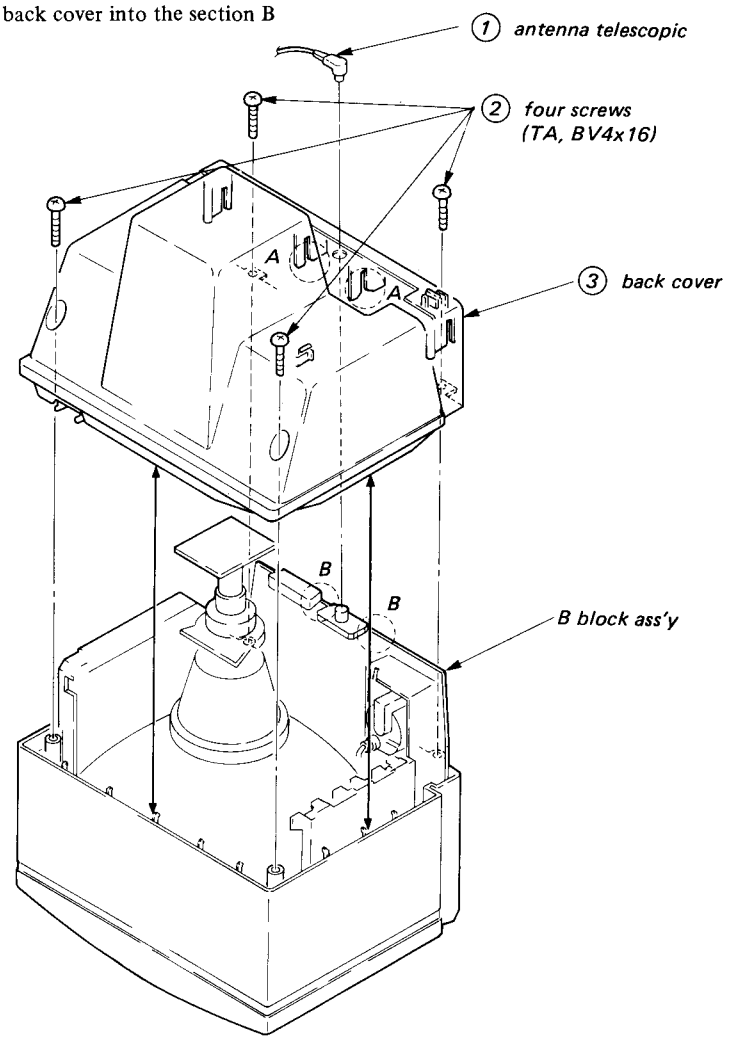
② *Using a thumb, pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.*



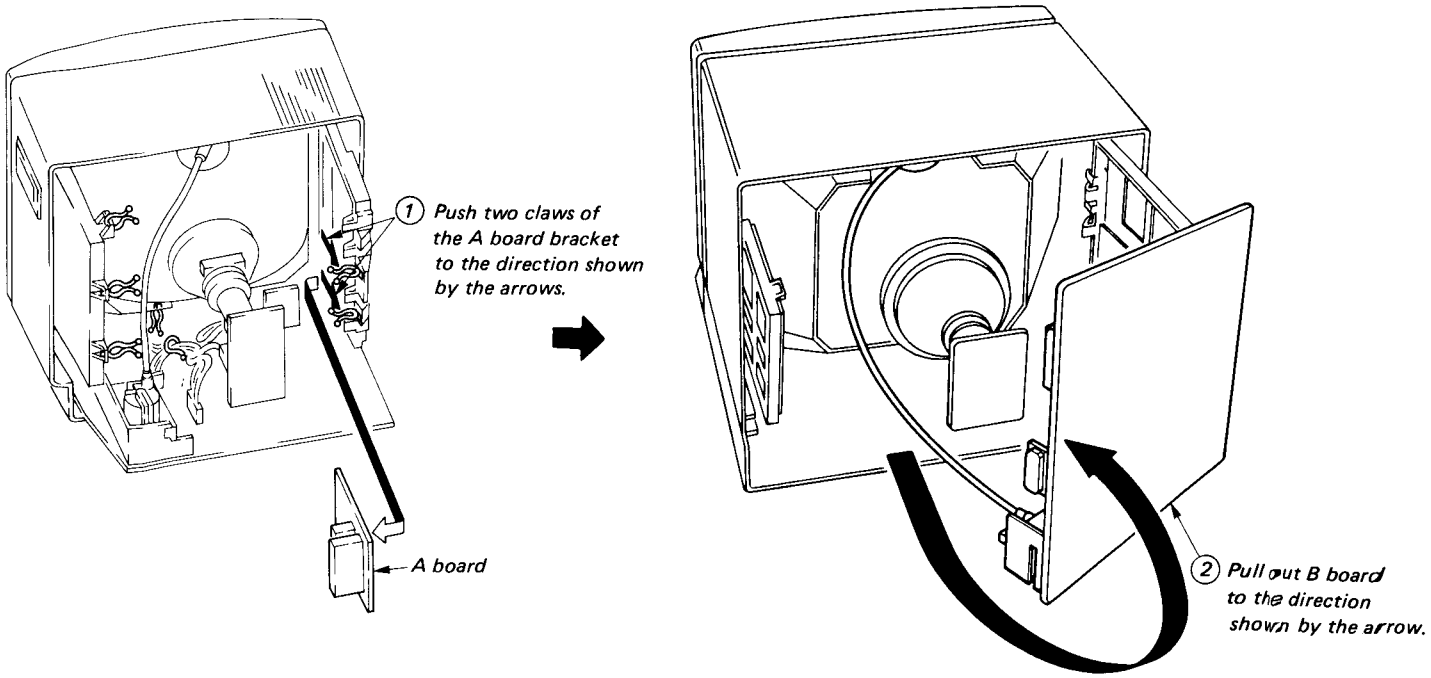
③ *When one side of the rubber cap is separated from the anode button, the anode cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.*

2-2. INSTALLATION OF BACK COVER

Note: Insert each section A of the back cover into the section B of the B block ass'y.



2-3. SERVICE POSITION FOR B BOARD



SECTION 3
OPK-113 ATTACHING

Preparation

- RC-113 (Shield case, Connecting cable, Wire, purse lock)

Before installing the adaptor, unplug the set from the wall outlet.

1. Remove the back cover.
2. Pull out the main B board.
3. Install shield case on OPK-113.
4. Connect wire (soldering) between shield case and negative terminal of C004 on V board. (Fig. 3-1)
5. Install OPK-113 on bracket.
6. Connect to the same number terminal as the connector. (Fig. 3-2)
7. Attach the back cover.

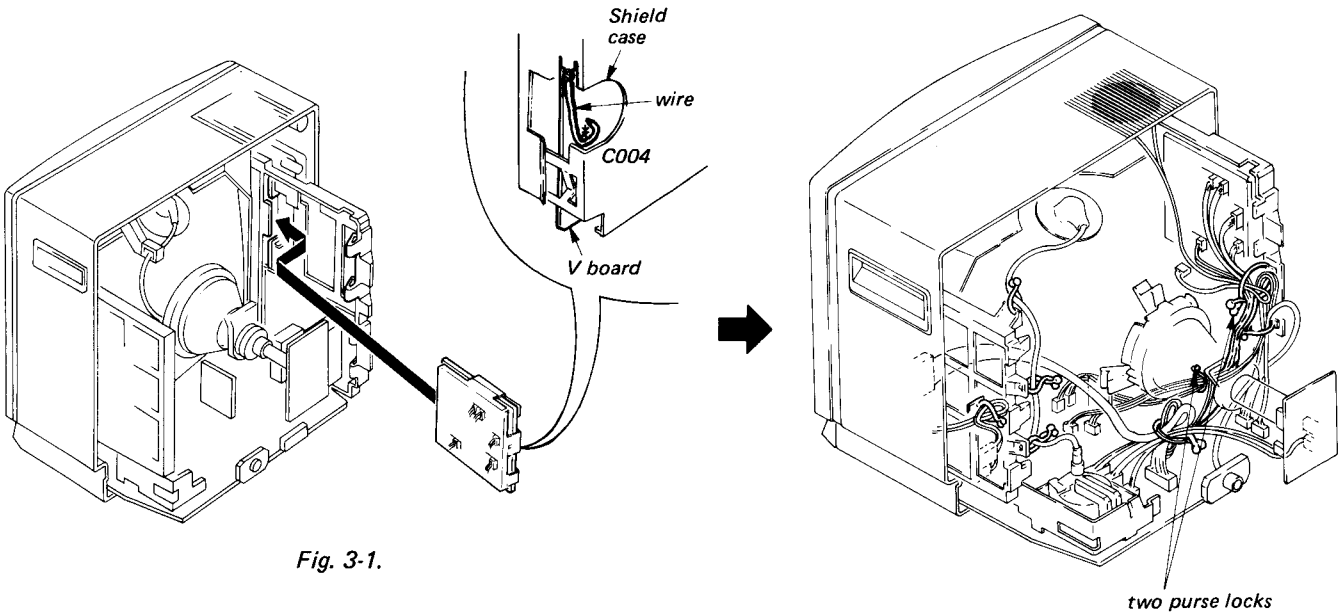


Fig. 3-1.

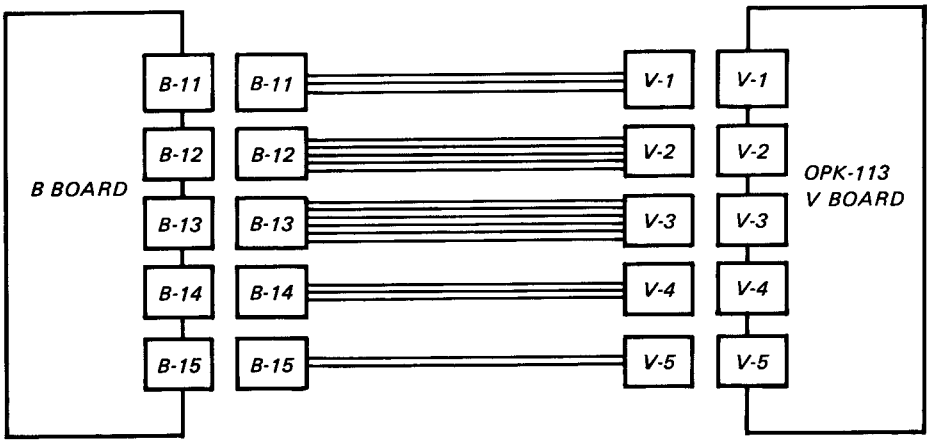


Fig. 3-2.

SECTION 4
SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted:

picture control . . . . . maximum
brightness control . . . . . maximum (fully clockwise)

Perform the adjustments in order as follows:

4-1. Beam Landing
4-2. Convergence
4-3. Focus (RV707)
4-4. White Balance

Note: Test Equipment Required.
1. Color-bar/Pattern Generator
2. Degausser

4-1. BEAM LANDING

1. Input a raster signal with the pattern generator.
   PICTURE . . normal
   BRT . . . . . center click
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides, evenly. (Fig. 4-1)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig. 4-2)
5. Switch over the raster signal to blue and green and confirm the condition.
6. When landing at the corners is not right, adjust by using the magnet. (Fig. 4-3)
7. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.

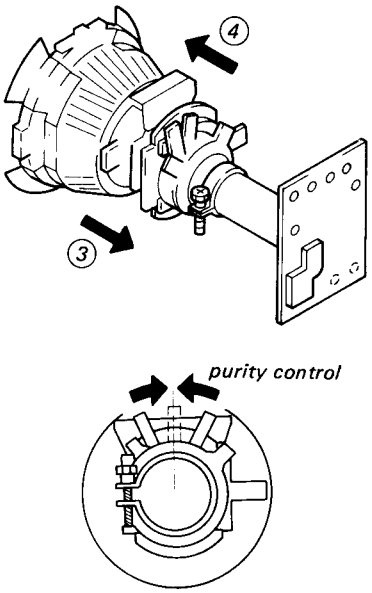


Fig. 4-1.

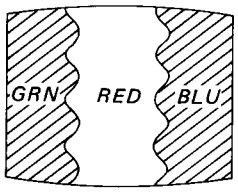


Fig. 4-2.

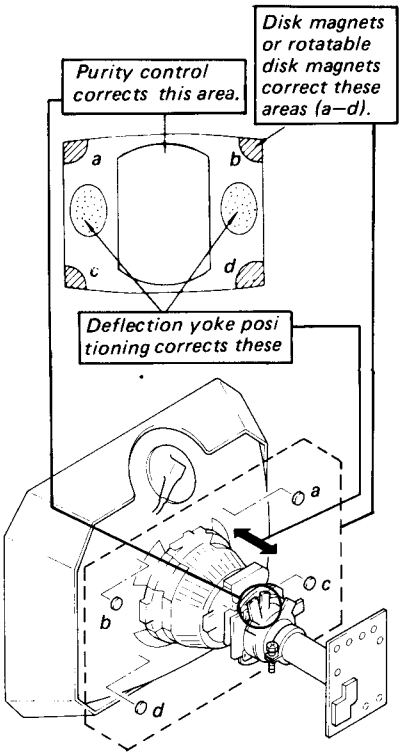


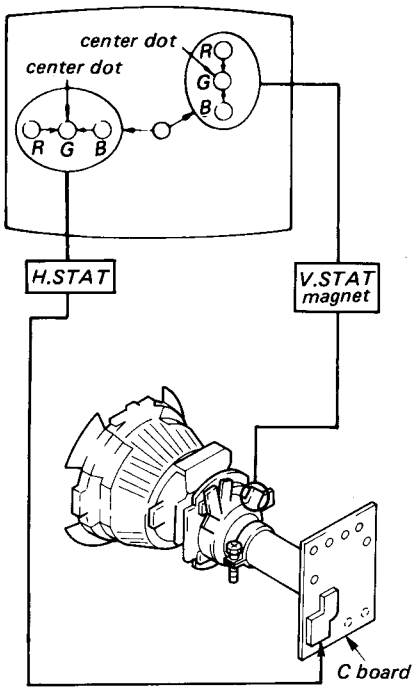
Fig. 4-3.

4-2. CONVERGENCE

Preparation:

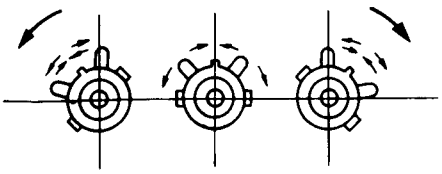
- Before starting, perform FOCUS, H.SIZE, V.SIZE and V.LIN adjustments.
- Turn BRIGHTNESS control fully counterclockwise and PICTURE control to normal.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence

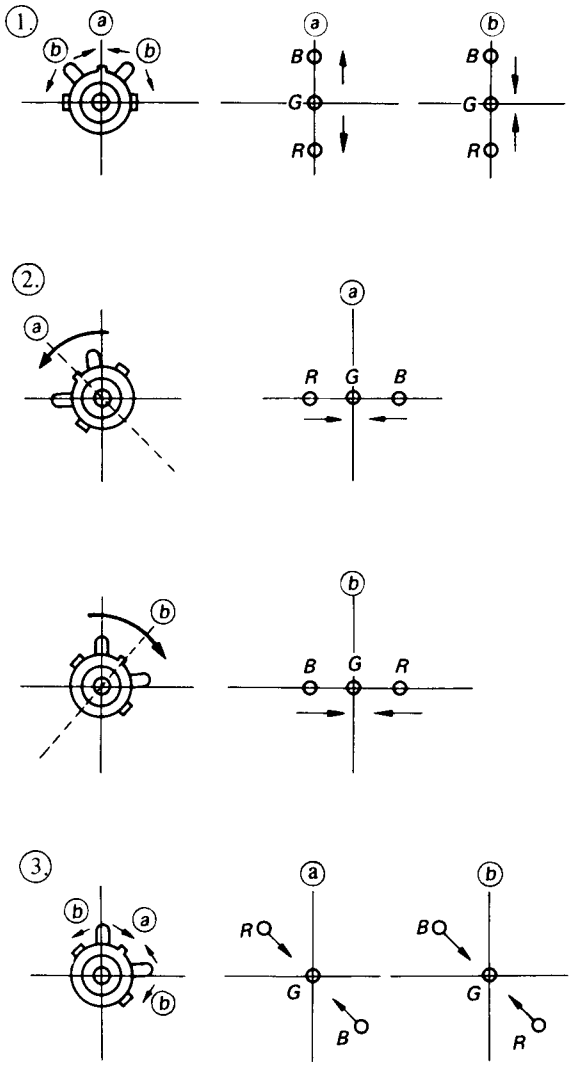


1. Adjust H.STAT VR to coincide red, green and blue dots on the centre of screen (Horizontal movement)
2. Adjust V.STAT magnet to coincide red, green and blue dots on the centre of screen (Vertical movement)
3. If the red, green and blue dots do not coincide on the centre of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)

- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4. When the V.STAT magnet is moved in the direction of arrow (a) and (b), Red. Green and Blue dots move as shown below.

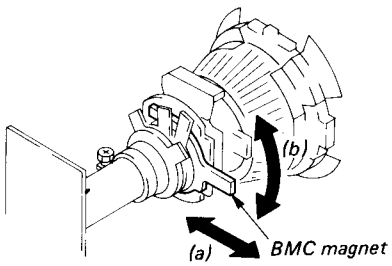


If blue dot does not coincide with red and green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H. static convergence.

Rotate BMC magnet (b) to correct insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.

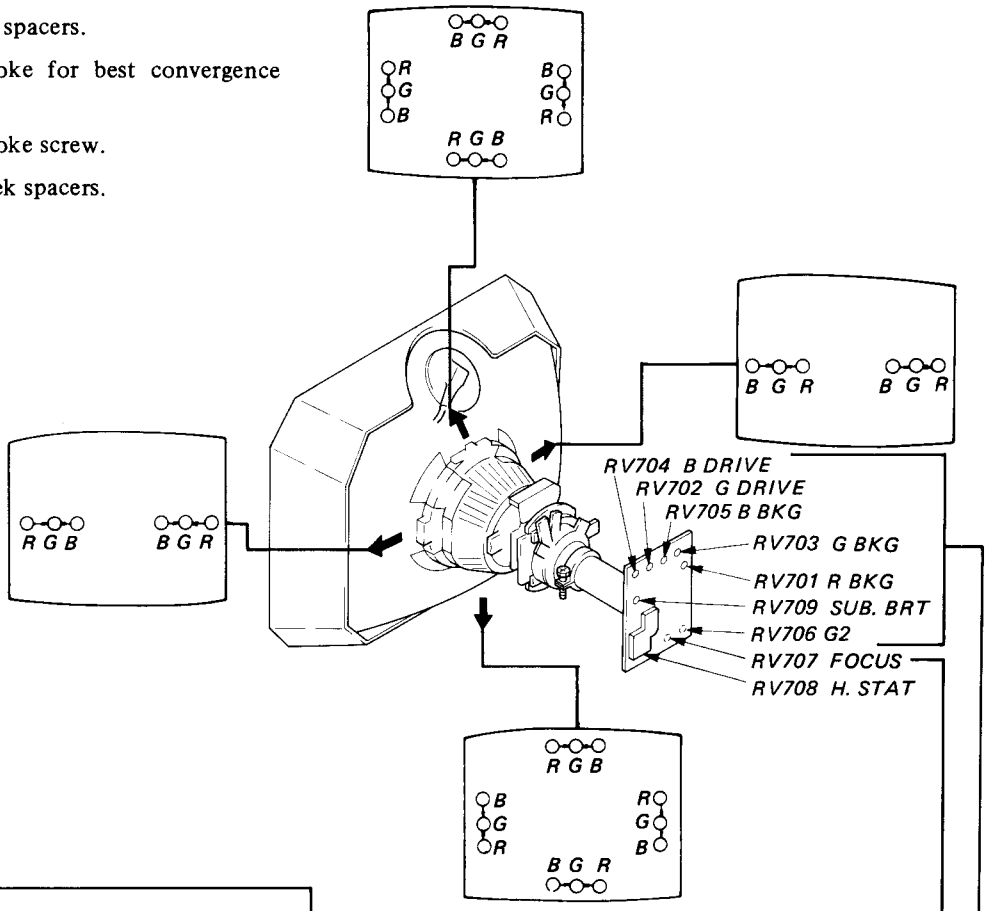


(2) **Dynamic Convergence Adjustment**

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoek spacers.



4-3. FOCUS (RV707)

Adjust Focus VR(RV707) for a best Picture.

4-4. WHITE BALANCE

[SCREEN (G_2)]

1. Input a dots pattern.
2. Set the PICTURE control at minimum and turn the BRIGHT control fully counterclockwise.
3. Confirm that BKG voltage is 160V dc when turning RV701 (R.BKG), RV703 (G.BKG) and RV705 (B.BKG).
4. Note the color which becomes visible first when turning RV706.

[WHITE BALANCE (Cut off)]

1. Input a all white signal.
2. Set the PICTURE control to minimum and turn the BRIGHT control center click.
3. Turn RV704 (B.DRIVE) and RV702 (G.DRIVE) fully clockwise.
4. Set RV701 (R.BKG), RV703 (G.BKG) and RV705 (B.BKG) to minimum.
5. Turn RV709 (SUB BRT) slowly to obtain a faintly visible cross-hatch.
   Note the color that first becomes visible by turning RV709.
   Do not turn a BKG control for this color.
6. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hatch.
7. Set the PICTURE control fully clockwise.
   Observe the screen and adjust the DRIVE controls for best white balance.
8. Repeat steps 5, through 7.

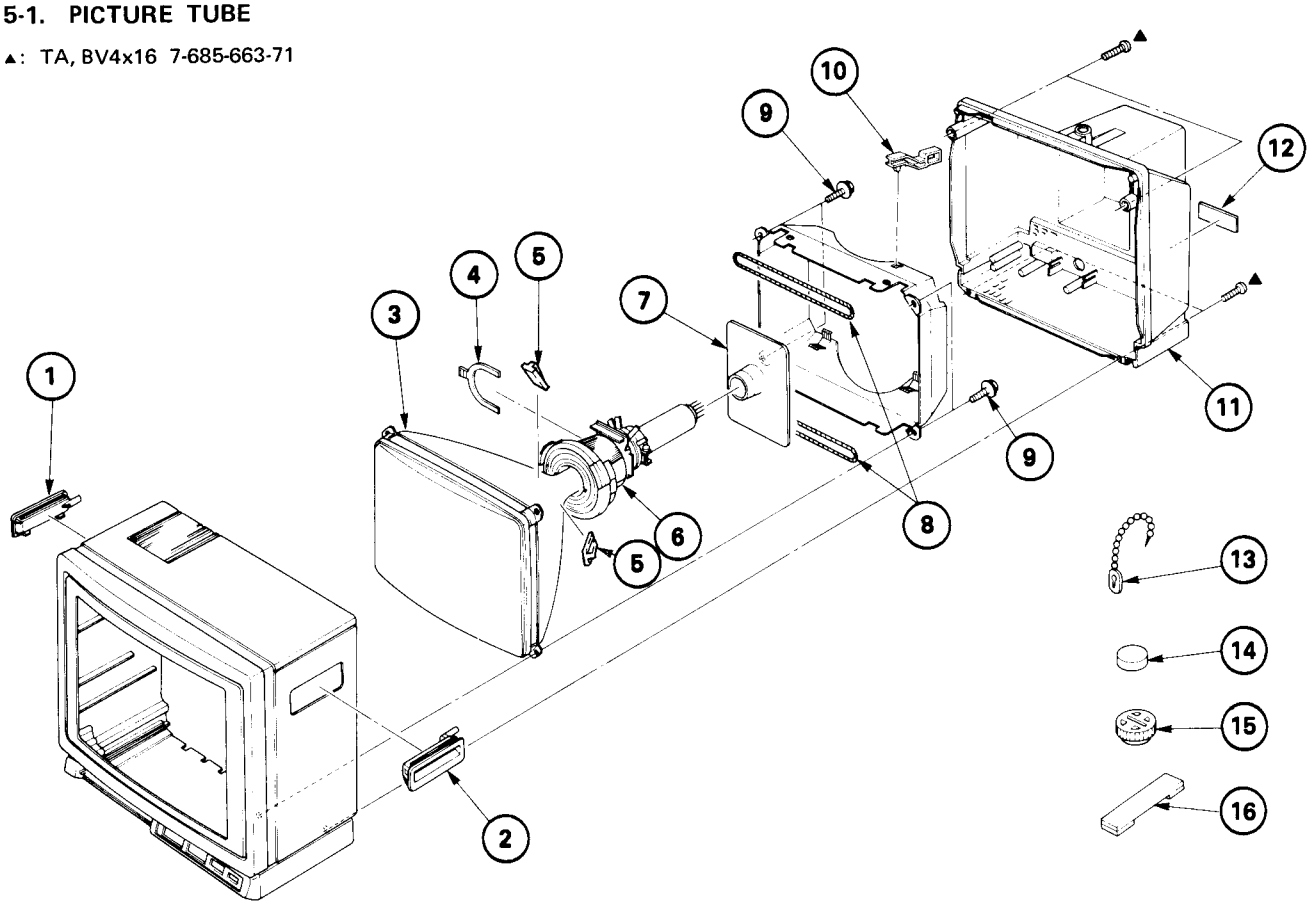
SECTION 5
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

5-1. PICTURE TUBE

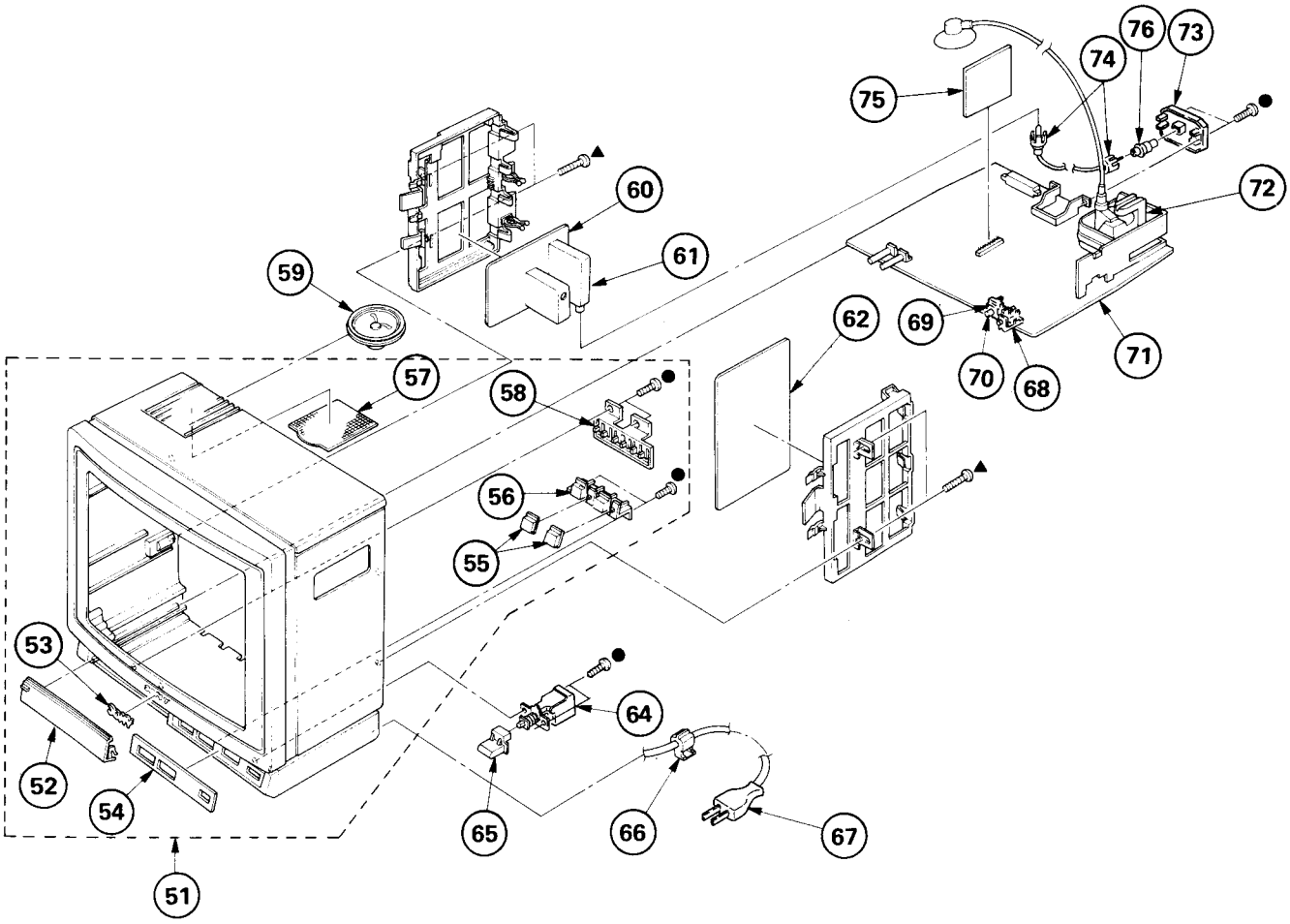
▲: TA, BV4x16 7-685-663-71



No.	Part No.	Description	Remark
1	4-374-921-61	HANDLE (LEFT)	
2	4-374-920-31	HANDLE (RIGHT)	
3	⚠.8-735-553-05	CRT (A34JBU10X)	
4	1-452-277-00	MAGNET, BMC	
5	3-703-003-00	SPACER, DY	
6	⚠.1-451-249-31	DEFLECTION YOKE (SY-125B)	
7	*A-1330-757-A	C BOARD, COMPLETE	
8	⚠.1-426-145-13	COIL, DEGAUSSING	
9	4-365-808-00	SCREW (5), TAPPING	
10	*4-346-339-00	HOLDER, HV CABLE	
11	4-376-557-11	COVER, BACK	
12	*4-380-928-01	LABEL, MODEL NUMBER	
13	4-308-870-00	CLIP, LEAD WIRE	
14	1-452-032-00	MAGNET, DISK; 10MM ø	
15	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ø	
16	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	

5-2. BEZEL ASSY

●: TA, BV3x12 7-685-648-71
▲: TA, BV4x16 7-685-663-71



No.	Part No.	Description	Remark
51	X-4374-994-1	BEZEL ASSY	52-58
52	X-4374-993-1	DOOR ASSY, CONTROL	
53	4-840-002-00	EMBLEM, SONY	
54	4-376-532-01	WINDOW (B), TUNING	
55	4-374-926-11	PUSH BUTTON	
56	4-376-516-21	BUTTON, CONTROL	
57	*4-374-962-01	NET, SPEAKER	
58	4-376-518-11	BUTTON, MULTI	
59	1-503-344-21	SPEAKER	
60	*A-1296-189-A	A BOARD, COMPLETE	
61	⚠.1-463-577-11	TUNER, ET(BT-883A)	
62	*A-1245-341-A	F BOARD, COMPLETE	
64	⚠.1-554-966-12	SWITCH, PUSH (AC POWER)(1 KEY)	
65	4-376-531-11	BUTTON (B), POWER	
66	⚠.4-022-115-01	HOLDER, AC CORD	
67	⚠.1-534-817-61	CORD, POWER	
68	*X-4374-934-1	GUIDE ASSY, LIGHT	
69	*4-381-686-01	BRACKET (B), BAR, OPTICAL	
70	*4-374-987-01	GUIDE, LIGHT	
71	*A-1135-390-A	B BOARD, COMPLETE	
72	⚠.1-439-311-32	TRANSFORMER ASSY, FLYBACK	
73	4-375-751-01	CASE, ANT TERMINAL	
74	*1-558-539-11	CABLE, P-P	
75	*1-618-984-11	D BOARD	
76	⚠.1-563-204-12	SOCKET, ANTENNA (PAL/SECAM)	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

B

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
• MF : μF, PF : μμF

RESISTORS
• All resistors are in ohms
• F : nonflammable

COILS
• MMH : mH, UH : μH

Ref.No.	Part No.	Description			Remark
	*A-1135-390-A	B BOARD, COMPLETE			
		**********			
	3-531-576-31	RIVET (DIA. 3), NYLON			
	3-701-833-01	HEAD, WASHER, TAPPING SCREW			
	3-831-441-XX	SPACER			
	*4-323-833-00	HEAT SINK, PIN OUT			
	*4-367-523-00	CASE (MAIN), SHIELD			
	*4-367-524-00	LID, UPPER, SHIELD CASE			
	*4-367-525-00	LID, REAR, SHIELD CASE			
	*4-376-515-01	HOLDER (D), LED			
	*4-376-517-01	HOLDER (A), LED			
		CONNECTOR			
B1	*1-508-767-00	5P PLUG			
B2	*1-564-038-00	CONNECTOR PLUG, DY (MINI) 6P			
B3	*1-508-765-00	3P PLUG (M)			
B4	*1-508-786-00	2P PLUG (M)			
B5	*1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P			
B6	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P			
B7	*1-560-127-00	PLUG, CONNECTOR (2.5MM) 7P			
B8	*1-560-126-00	PLUG, CONNECTOR (2.5MM PITCH)			
B9	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			
B11	*1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)			
B12	*1-560-125-00	PLUG, CONNECTOR (2.5MM PITCH)			
B13	*1-560-126-00	PLUG, CONNECTOR (2.5MM PITCH)			
B14	*1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)			
B15	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			
W1	*1-564-346-00	CONNECTOR, BOARD TO BOARD 18P			
		CAPACITOR			
C001	1-124-903-00	ELECT	1MF	20%	50V
C002	1-124-903-00	ELECT	1MF	20%	50V
C003	1-124-903-00	ELECT	1MF	20%	50V
C004	1-102-973-00	CERAMIC	100PF	5%	50V
C005	1-108-849-00	MYLAR	0.1MF	10%	50V
C006	1-102-959-00	CERAMIC	22PF	5%	50V
C007	1-102-959-00	CERAMIC	22PF	5%	50V
C009	1-102-111-00	CERAMIC	270PF	10%	50V
C010	1-102-518-00	CERAMIC	33PF	5%	50V
C011	1-102-518-00	CERAMIC	33PF	5%	50V
C012	1-101-004-00	CERAMIC	0.01MF		50V
C013	1-102-973-00	CERAMIC	100PF	5%	50V
C014	1-101-004-00	CERAMIC	0.01MF		50V
C015	1-124-907-00	ELECT	10MF	20%	50V
C018	1-101-004-00	CERAMIC	0.01MF		50V
C019	1-124-907-00	ELECT	10MF	20%	50V
C020	1-124-896-00	ELECT	33MF	20%	16V
C021	1-101-004-00	CERAMIC	0.01MF		50V
C022	1-101-004-00	CERAMIC	0.01MF		50V
C024	1-124-907-00	ELECT	10MF	20%	50V
C029	1-102-074-00	CERAMIC	0.001MF	10%	50V
C030	1-101-004-00	CERAMIC	0.01MF		50V
C031	1-101-004-00	CERAMIC	0.01MF		50V
C032	1-102-110-00	CERAMIC	220PF	10%	50V
C034	1-101-004-00	CERAMIC	0.01MF		50V
C035	1-101-004-00	CERAMIC	0.01MF		50V
C301	1-101-004-00	CERAMIC	0.01MF		50V
C302	1-124-903-00	ELECT	1MF	20%	50V
C303	1-124-896-00	ELECT	33MF	20%	16V
C305	1-124-903-00	ELECT	1MF	20%	50V
C306	1-124-251-00	ELECT	0.22MF	20%	50V
C307	1-124-904-00	ELECT	2.2MF	20%	50V
C308	1-102-963-00	CERAMIC	33PF	5%	50V
C309	1-102-111-00	CERAMIC	270PF	10%	50V
C310	1-102-111-00	CERAMIC	270PF	10%	50V
C311	1-124-903-00	ELECT	1MF	20%	50V
C312	1-124-903-00	ELECT	1MF	20%	50V
C314	1-124-927-11	ELECT	4.7MF	20%	50V
C315	1-124-907-00	ELECT	10MF	20%	50V
C316	1-106-184-00	MYLAR	0.0033MF	10%	50V
C318	1-124-903-00	ELECT	1MF	20%	50V
C319	1-108-841-91	MYLAR	0.022MF	10%	50V
C320	1-123-608-00	ELECT	0.22MF	20%	50V
C321	1-108-841-91	MYLAR	0.022MF	10%	50V
C322	1-102-074-00	CERAMIC	0.001MF	10%	50V
C323	1-123-332-00	ELECT	47MF	20%	16V
C324	1-124-907-00	ELECT	10MF	20%	50V
C325	1-101-004-00	CERAMIC	0.01MF		50V
C326	1-101-004-00	CERAMIC	0.01MF		50V
C330	1-124-903-00	ELECT	1MF	20%	50V
C331	1-123-332-00	ELECT	47MF	20%	16V
C336	1-102-074-00	CERAMIC	0.001MF	10%	50V
C337	1-102-865-00	CERAMIC	8PF	0.5PF	50V
C391	1-102-973-00	CERAMIC	100PF	5%	50V
C392	1-124-907-00	ELECT	10MF	20%	50V
C402	1-101-004-00	CERAMIC	0.01MF		50V
C404	1-108-843-91	ELECT	0.033MF	10%	50V
C405	1-102-110-00	CERAMIC	220PF	10%	50V
C406	1-124-896-00	ELECT	33MF	20%	16V
C407	1-102-971-00	CERAMIC	82PF	5%	50V
C408	1-123-332-00	ELECT	47MF	20%	16V
C409	1-124-903-00	ELECT	1MF	20%	50V
C410	1-124-903-00	ELECT	1MF	20%	50V
C411	1-124-903-00	ELECT	1MF	20%	50V
C412	1-124-445-00	ELECT	100MF	20%	16V
C413	1-124-907-00	ELECT	10MF	20%	50V
C414	1-124-445-00	ELECT	100MF	20%	16V
C415	1-124-646-00	ELECT	22MF	20%	16V
C416	1-124-481-11	ELECT	22MF	20%	25V
C417	1-124-907-00	ELECT	10MF	20%	50V
C418	1-124-475-11	ELECT	470MF	20%	16V
C419	1-124-903-00	ELECT	1MF	20%	50V
C420	1-124-903-00	ELECT	1MF	20%	50V
C421	1-124-445-00	ELECT	100MF	20%	16V
C422	1-124-903-00	ELECT	1MF	20%	50V
C423	1-124-907-00	ELECT	10MF	20%	50V
C424	1-102-121-00	CERAMIC	0.0022MF	10%	50V

Ref.No.	Part No.	Description			Remark
C425	1-124-556-11	ELECT	2200MF	20%	16V
C426	1-124-907-00	ELECT	10MF	20%	50V
C427	1-124-907-00	ELECT	10MF	20%	50V
C428	1-124-907-00	ELECT	10MF	20%	50V
C429	1-124-903-00	ELECT	1MF	20%	50V
C430	1-124-445-00	ELECT	100MF	20%	16V
C431	1-124-902-00	ELECT	0.47MF	20%	50V
C432	1-124-902-00	ELECT	0.47MF	20%	50V
C433	1-124-902-00	ELECT	0.47MF	20%	50V
C434	1-124-903-00	ELECT	1MF	20%	50V
C439	1-124-445-00	ELECT	100MF	20%	16V
C440	1-102-114-00	CERAMIC	470PF	10%	50V
C441	1-102-114-00	CERAMIC	470PF	10%	50V
C525	1-123-321-00	ELECT	220MF	20%	16V
C529	1-102-110-00	CERAMIC	220PF	10%	50V
C531	1-102-965-00	CERAMIC	39PF	5%	50V
C551	1-102-244-00	CERAMIC	220PF	10%	500V
C552	1-102-244-00	CERAMIC	220PF	10%	500V
C553	1-124-122-11	ELECT	100MF	20%	50V
C554	1-106-196-00	MYLAR	0.01MF	10%	100V
C555	1-124-117-00	ELECT	680MF	10%	25V
C556	1-108-622-91	MYLAR	0.0047MF	10%	100V
C557	1-161-271-00	CERAMIC	100PF	5%	50V
C801	1-123-024-00	ELECT	33MF		160V
C802	1-102-114-00	CERAMIC	470PF	10%	
C803	1-106-367-00	MYLAR	0.01MF	10%	200V
C804	1-102-038-00	CERAMIC	0.001MF		500V
C805	1-102-244-00	CERAMIC	220PF	10%	500V
C806	1-102-212-00	CERAMIC	820PF	10%	500V
C807	1-136-236-11	FILM	0.47MF	5%	400V
C808	1-106-367-00	MYLAR	0.01MF	10%	200V
C809	1-162-116-00	CERAMIC	680PF	10%	2KV
C810	1-106-200-00	MYLAR	0.015MF	10%	100V
C811	1-162-116-00	CERAMIC	680PF	10%	2KV
C812 ⚠	1-136-092-11	FILM	0.0072MF	3%	2KV
C813	1-101-880-00	CERAMIC	47PF	5%	50V
C814	1-102-112-00	CERAMIC	330PF	10%	50V
C815	1-124-645-11	ELECT	10MF	20%	16V
C817 ⚠	1-162-115-51	CERAMIC	330PF	10%	2KV
C818	1-101-004-00	CERAMIC	0.01MF		50V
C821	1-108-630-91	MYLAR	0.022MF	10%	100V
C822	1-102-228-00	CERAMIC	470PF	10%	500V
C823	1-102-002-00	CERAMIC	680PF	10%	500V
C824	1-124-002-11	ELECT	1MF	20%	50V
C825	1-124-903-00	ELECT	1MF	20%	50V
C826	1-106-200-00	MYLAR	0.015MF	10%	100V
C827	1-136-060-00	FILM	0.047MF	5%	400V
C851	1-123-948-00	ELECT	22MF	20%	250V
C852	1-162-114-00	CERAMIC	0.0047MF		2KV
C853	1-102-038-00	CERAMIC	0.001MF		500V
C854	1-124-120-11	ELECT	220MF	20%	25V
C855	1-124-907-00	ELECT	10MF	20%	50V
C856	1-102-038-00	CERAMIC	0.001MF		500V
C857	1-108-425-00	MYLAR	0.022MF	10%	200V
C858	1-101-004-00	CERAMIC	0.01MF		50V
C859	1-124-445-00	ELECT	100MF	20%	16V
C860	1-102-228-00	CERAMIC	470PF	10%	500V
C861	1-101-880-00	CERAMIC	47PF	5%	50V
C862	1-101-003-00	CERAMIC	0.0047MF		50V
C863	1-124-901-00	ELECT	1000MF	20%	35V

FILTER

CF001	1-567-192-11	OSCILLATOR, CERAMIC

TRIMMER

CV301	1-141-181-11	CAP, TRIMMER

DIODE

D002	8-719-911-19	DIODE 1SS119
D004	8-719-901-96	DIODE SLP161B
D005	8-719-800-94	DIODE TLUR144
D006	8-719-911-19	DIODE 1SS119
D007	8-719-911-19	DIODE 1SS119
D008	8-719-911-19	DIODE 1SS119
D009	8-719-911-19	DIODE 1SS119
D010	8-719-911-19	DIODE 1SS119
D011	8-719-911-19	DIODE 1SS119
D012	8-719-110-72	DIODE RD30ES-B2
D016	8-719-911-19	DIODE 1SS119
D017	8-719-911-19	DIODE 1SS119
D018	8-719-911-19	DIODE 1SS119
D019	8-719-109-89	DIODE RD5.6ES-B2
D020	8-719-911-19	DIODE 1SS119
D022	8-719-911-19	DIODE 1SS119
D023	8-719-911-19	DIODE 1SS119
D024	8-719-911-19	DIODE 1SS119
D025	8-719-109-71	DIODE RD3.9ES-B1
D041	8-719-911-19	DIODE 1SS119
D301	8-719-911-19	DIODE 1SS119
D302	8-719-911-19	DIODE 1SS119
D303	8-719-911-19	DIODE 1SS119
D306	8-719-911-19	DIODE 1SS119
D307	8-719-911-19	DIODE 1SS119
D308	8-719-911-19	DIODE 1SS119
D391	8-719-911-19	DIODE 1SS119
D402	8-719-911-19	DIODE 1SS119
D403	8-719-911-19	DIODE 1SS119
D405	8-719-110-19	DIODE RD11ES-B
D406	8-719-108-12	DIODE RD9.1E-W
D407	8-719-108-12	DIODE RD9.1E-W
D408	8-719-110-38	DIODE RD15ES-B
D501	8-719-911-19	DIODE 1SS119
D504	8-719-911-19	DIODE 1SS119
D551	8-719-200-02	DIODE 10E2
D821	8-719-200-02	DIODE 10E2
D822	8-719-200-02	DIODE 10E2

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

B

Ref.No.	Part No.	Description	Remark
D823	8-719-200-02	DIODE 10E2	
D824	8-719-931-05	DIODE EQB01-05	
D851	8-719-901-93	DIODE V19E	
D852	8-719-300-65	DIODE ES1F	
D853	8-719-901-93	DIODE V19E	
D854	8-719-200-02	DIODE 10E2	
D855	8-719-901-93	DIODE V19E	
D856	8-719-110-35	DIODE RD13ES-B1	
		DELAY LINE	
DL301	1-415-122-31	DELAY LINE, 1H (PAL)	
		IC	
IC001	8-759-602-81	IC M50436-511SP	
IC002	8-759-603-41	IC M58655P	
IC003	8-741-139-80	IC BX1398	
IC004	8-759-157-40	IC UPC574J	
IC301	8-752-030-86	IC CXA1001AP	
IC401	8-752-006-10	IC CX20061	
IC402	8-752-006-10	IC CX20061	
IC403	8-752-006-10	IC CX20061	
IC404	8-752-010-00	IC CX20100	
IC551	8-759-801-98	IC LA7830	
		JACK	
J401	1-561-534-00	SOCKET 21P	
		COIL	
JW7	1-408-409-00	MICRO INDUCTOR 10UH	
L001	1-408-411-00	MICRO INDUCTOR 15UH	
L002	1-408-411-00	MICRO INDUCTOR 15UH	
L004	1-408-415-00	MICRO INDUCTOR 33UH	
L005	1-408-409-00	MICRO INDUCTOR 10UH	
L006	1-408-403-00	MICRO INDUCTOR 3.3UH	
L007	1-410-316-11	MICRO INDUCTOR 1UH	
L302	1-408-244-00	MICRO INDUCTOR 18MMH	
L303	1-408-415-00	MICRO INDUCTOR 33UH	
L304	1-408-409-00	MICRO INDUCTOR 10UH	
L305	1-408-300-00	MICRO INDUCTOR 6.8UH	
L391	1-408-245-00	MICRO INDUCTOR 22MMH	
L401	1-408-409-00	MICRO INDUCTOR 10UH	
L404	1-408-415-00	MICRO INDUCTOR 33UH	
L405	1-408-417-00	MICRO INDUCTOR 47UH	
L551	1-408-698-00	MICRO INDUCTOR 8.2UH	
L801	1-407-556-00	CHOKE COIL	
L802	1-407-364-00	COIL, SPOOK CHOKE 3.3UH	
L803	1-407-365-00	COIL, CHOKE	
L804	1-421-013-00	COIL, (HORIZONTAL CHOKE) 25UH	
L805	1-459-496-00	COIL, FERRITE (HLC)	
L806	1-459-315-00	COIL, VAR, FERRITE (HWC)	
L821	1-459-105-21	COIL(WITH CORE)	
L822	1-407-494-00	MICRO INDUCTOR 1.5MMH	
L851	1-408-240-00	MICRO INDUCTOR 6.8MMH	

Ref.No.	Part No.	Description	Remark
		TRANSISTOR	
Q001	8-729-178-54	oRANSISTOR 2SC2785	
Q002	8-729-900-89	TRANSISTOR DTC144ES	
Q003	8-729-900-63	TRANSISTOR DTA124ES	
Q004	8-729-603-50	TRANSISTOR 2SC403SP	
Q005	8-729-178-54	TRANSISTOR 2SC2785	
Q006	8-729-178-54	TRANSISTOR 2SC2785	
Q007	8-729-900-36	TRANSISTOR DTC124ES	
Q008	8-729-900-63	TRANSISTOR DTA124ES	
Q009	8-729-900-63	TRANSISTOR DTA124ES	
Q010	8-729-178-54	TRANSISTOR 2SC2785	
Q011	8-729-178-54	TRANSISTOR 2SC2785	
Q012	8-729-117-54	TRANSISTOR 2SA1175	
Q013	8-729-900-89	TRANSISTOR DTC144ES	
Q301	8-729-178-54	TRANSISTOR 2SC2785	
Q302	8-729-117-54	TRANSISTOR 2SA1175	
Q303	8-729-117-54	TRANSISTOR 2SA1175	
Q304	8-729-178-54	TRANSISTOR 2SC2785	
Q305	8-729-178-54	TRANSISTOR 2SC2785	
Q306	8-729-117-54	TRANSISTOR 2SA1175	
Q307	8-729-900-83	TRANSISTOR DTC124XS	
Q309	8-729-178-54	TRANSISTOR 2SC2785	
Q310	8-729-178-54	TRANSISTOR 2SC2785	
Q311	8-729-115-30	TRANSISTOR 2SK105A-30	
Q402	8-729-117-54	TRANSISTOR 2SA1175	
Q404	8-729-178-54	TRANSISTOR 2SC2785	
Q405	8-729-178-54	TRANSISTOR 2SC2785	
Q406	8-729-178-54	TRANSISTOR 2SC2785	
Q409	8-729-117-54	TRANSISTOR 2SA1175	
Q410	8-729-178-54	TRANSISTOR 2SC2785	
Q411	8-729-178-54	TRANSISTOR 2SC2785	
Q412	8-729-178-54	TRANSISTOR 2SC2785	
Q413	8-729-178-54	TRANSISTOR 2SC2785	
Q414	8-729-178-54	TRANSISTOR 2SC2785	
Q415	8-729-900-36	TRANSISTOR DTC124ES	
Q416	8-729-178-54	TRANSISTOR 2SC2785	
Q417	8-729-178-54	TRANSISTOR 2SC2785	
Q418	8-729-178-54	TRANSISTOR 2SC2785	
Q419	8-729-178-54	TRANSISTOR 2SC2785	
Q420	8-729-900-89	TRANSISTOR DTC144ES	
Q801	8-729-168-82	TRANSISTOR 2SC2688	
Q802	8-729-206-04	TRANSISTOR 2SD1554	
Q803	8-729-178-54	TRANSISTOR 2SC2785	
Q804	8-729-178-54	TRANSISTOR 2SC2785	
Q821	8-729-378-91	TRANSISTOR 2SD789	
Q851	8-729-313-42	TRANSISTOR 2SD1134	
		RESISTOR	
R004	1-247-875-00	CARBON 68K 5% 1/6W	
R005	1-247-859-00	CARBON 15K 5% 1/6W	
R007	1-249-432-11	CARBON 18K 5% 1/6W	
R008	1-249-429-11	CARBON 10K 5% 1/6W	

Ref.No.	Part No.	Description				Remark
R009	1-247-725-11	CARBON	10K	5%	1/4W	
R010	1-249-433-11	CARBON	22K	5%	1/6W	
R011	1-249-433-11	CARBON	22K	5%	1/6W	
R012	1-249-433-11	CARBON	22K	5%	1/6W	
R013	1-249-433-11	CARBON	22K	5%	1/6W	
R014	1-215-900-11	METAL OXIDE	22K	5%	2W	F
R016	1-247-821-00	CARBON	390	5%	1/6W	
R017	1-247-821-00	CARBON	390	5%	1/6W	
R019	1-247-823-00	CARBON	470	5%	1/6W	
R020	1-247-708-11	CARBON	470	5%	1/4W	
R021	1-247-823-00	CARBON	470	5%	1/6W	
R022	1-247-823-00	CARBON	470	5%	1/6W	
R023	1-247-823-00	CARBON	470	5%	1/6W	
R024	1-247-823-00	CARBON	470	5%	1/6W	
R025	1-247-823-00	CARBON	470	5%	1/6W	
R026	1-247-823-00	CARBON	470	5%	1/6W	
R027	1-247-823-00	CARBON	470	5%	1/6W	
R028	1-247-873-00	CARBON	56K	5%	1/6W	
R029	1-249-429-11	CARBON	10K	5%	1/6W	
R030	1-249-429-11	CARBON	10K	5%	1/6W	
R031	1-247-823-00	CARBON	470	5%	1/6W	
R032	1-247-823-00	CARBON	470	5%	1/6W	
R034	1-247-823-00	CARBON	470	5%	1/6W	
R036	1-249-429-11	CARBON	10K	5%	1/6W	
R037	1-249-429-11	CARBON	10K	5%	1/6W	
R038	1-249-433-11	CARBON	22K	5%	1/6W	
R039	1-247-163-00	CARBON	22K	5%	1/4W	
R041	1-247-704-11	CARBON	220	5%	1/4W	
R042	1-249-429-11	CARBON	10K	5%	1/6W	
R043	1-247-725-11	CARBON	10K	5%	1/4W	
R044	1-247-823-00	CARBON	470	5%	1/6W	
R045	1-247-823-00	CARBON	470	5%	1/6W	
R046	1-247-708-11	CARBON	470	5%	1/4W	
R047	1-247-823-00	CARBON	470	5%	1/6W	
R048	1-247-708-11	CARBON	470	5%	1/4W	
R050	1-249-497-11	CARBON	33K	5%	1/4W	
R051	1-247-708-11	CARBON	470	5%	1/4W	
R052	1-247-823-00	CARBON	470	5%	1/6W	
R053	1-249-429-11	CARBON	10K	5%	1/6W	
R054	1-247-873-00	CARBON	56K	5%	1/6W	
R055	1-247-823-00	CARBON	470	5%	1/6W	
R056	1-247-708-11	CARBON	470	5%	1/4W	
R059	1-249-417-11	CARBON	1K	5%	1/6W	
R060	1-249-429-11	CARBON	10K	5%	1/6W	
R061	1-249-441-11	CARBON	100K	5%	1/6W	
R062	1-247-875-00	CARBON	68K	5%	1/6W	
R063	1-249-434-11	CARBON	27K	5%	1/6W	
R064	1-249-417-11	CARBON	1K	5%	1/6W	
R065	1-249-433-11	CARBON	22K	5%	1/6W	
R066	1-249-425-11	CARBON	4.7K	5%	1/6W	
R070	1-249-429-11	CARBON	10K	5%	1/6W	
R071	1-426-527-00	CARBON	180K	5%	1/4W	
R178	1-249-417-11	CARBON	1K	5%	1/6W	
R179	1-249-417-11	CARBON	1K	5%	1/6W	

Ref.No.	Part No.	Description				Remark
R180	1-249-419-11	CARBON	1.5K	5%	1/6W	
R301	1-247-823-00	CARBON	470	5%	1/6W	
R302	1-249-433-11	CARBON	22K	5%	1/6W	
R304	1-249-497-11	CARBON	33K	5%	1/4W	
R305	1-247-887-00	CARBON	220K	5%	1/6W	
R306	1-249-419-11	CARBON	1.5K	5%	1/6W	
R307	1-247-725-11	CARBON	10K	5%	1/4W	
R308	1-249-429-11	CARBON	10K	5%	1/6W	
R309	1-247-851-00	CARBON	6.8K	5%	1/6W	
R310	1-246-535-00	CARBON	390K	5%	1/4W	
R311	1-247-903-00	CARBON	1M	5%	1/6W	
R312	1-249-435-11	CARBON	33K	5%	1/6W	
R313	1-249-432-11	CARBON	18K	5%	1/6W	
R314	1-246-541-00	CARBON	680K	5%	1/4W	
R315	1-247-883-00	CARBON	150K	5%	1/6W	
R316	1-249-441-11	CARBON	100K	5%	1/6W	
R317	1-249-441-11	CARBON	100K	5%	1/6W	
R318	1-249-441-11	CARBON	100K	5%	1/6W	
R319	1-249-441-11	CARBON	100K	5%	1/6W	
R320	1-247-725-11	CARBON	10K	5%	1/4W	
R321	1-249-467-11	CARBON	68K	5%	1/4W	
R322	1-249-415-11	CARBON	680	5%	1/6W	
R323	1-249-422-11	CARBON	2.7K	5%	1/6W	
R324	1-247-859-00	CARBON	15K	5%	1/6W	
R325	1-247-851-00	CARBON	6.8K	5%	1/6W	
R326	1-247-849-00	CARBON	5.6K	5%	1/6W	
R327	1-247-145-00	CARBON	3.9K	5%	1/4W	
R328	1-247-869-00	CARBON	39K	5%	1/6W	
R329	1-247-883-00	CARBON	150K	5%	1/6W	
R331	1-247-859-00	CARBON	15K	5%	1/6W	
R332	1-249-433-11	CARBON	22K	5%	1/6W	
R333	1-247-821-00	CARBON	390	5%	1/6W	
R334	1-249-417-11	CARBON	1K	5%	1/6W	
R335	1-249-433-11	CARBON	22K	5%	1/6W	
R336	1-249-435-11	CARBON	33K	5%	1/6W	
R337	1-249-433-11	CARBON	22K	5%	1/6W	
R338	1-249-437-11	CARBON	47K	5%	1/6W	
R339	1-247-823-00	CARBON	470	5%	1/6W	
R340	1-247-869-00	CARBON	39K	5%	1/6W	
R341	1-247-869-00	CARBON	39K	5%	1/6W	
R342	1-247-859-00	CARBON	15K	5%	1/6W	
R343	1-247-853-00	CARBON	8.2K	5%	1/6W	
R344	1-247-875-00	CARBON	68K	5%	1/6W	
R345	1-247-875-00	CARBON	68K	5%	1/6W	
R346	1-249-429-11	CARBON	10K	5%	1/6W	
R347	1-249-421-11	CARBON	2.2K	5%	1/6W	
R348	1-249-437-11	CARBON	47K	5%	1/6W	
R350	1-249-433-11	CARBON	22K	5%	1/6W	
R353	1-249-417-11	CARBON	1K	5%	1/6W	
R354	1-247-819-00	CARBON	330	5%	1/6W	
R355	1-247-859-00	CARBON	15K	5%	1/6W	
R362	1-249-440-11	CARBON	82K	5%	1/6W	
R366	1-249-435-11	CARBON	33K	5%	1/6W	

B

Ref.No.	Part No.	Description				Remark
R370	1-247-851-00	CARBON	6.8K	5%	1/6W	
R371	1-247-891-00	CARBON	330K	5%	1/6W	
R391	1-249-423-11	CARBON	3.3K	5%	1/6W	
R392	1-247-849-00	CARBON	5.6K	5%	1/6W	
R401	1-249-417-11	CARBON	1K	5%	1/6W	
R402	1-249-429-11	CARBON	10K	5%	1/6W	
R403	1-249-433-11	CARBON	22K	5%	1/6W	
R404	1-247-859-00	CARBON	15K	5%	1/6W	
R406	1-249-469-11	CARBON	100K	5%	1/4W	
R408	1-247-903-00	CARBON	1M	5%	1/6W	
R410	1-247-708-11	CARBON	470	5%	1/4W	
R411	1-216-430-11	METAL OXIDE	390	5%	1W	F
R412	1-249-421-11	CARBON	2.2K	5%	1/6W	
R413	1-247-853-00	CARBON	8.2K	5%	1/6W	
R414	1-247-859-00	CARBON	15K	5%	1/6W	
R415	1-249-417-11	CARBON	1K	5%	1/6W	
R416	1-249-417-11	CARBON	1K	5%	1/6W	
R419	1-249-419-11	CARBON	1.5K	5%	1/6W	
R420	1-247-815-00	CARBON	220	5%	1/6W	
R421	1-249-421-11	CARBON	2.2K	5%	1/6W	
R422	1-247-859-00	CARBON	15K	5%	1/6W	
R423	1-247-725-11	CARBON	10K	5%	1/4W	
R424	1-249-437-11	CARBON	47K	5%	1/6W	
R425	1-247-889-00	CARBON	270K	5%	1/6W	
R426	1-249-469-11	CARBON	100K	5%	1/4W	
R427	1-249-441-11	CARBON	100K	5%	1/6W	
R429	1-247-708-11	CARBON	470	5%	1/4W	
R430	1-247-823-00	CARBON	470	5%	1/6W	
R431	1-247-875-00	CARBON	68K	5%	1/6W	
R432	1-249-425-11	CARBON	4.7K	5%	1/6W	
R433	1-249-419-11	CARBON	1.5K	5%	1/6W	
R434	1-247-851-00	CARBON	6.8K	5%	1/6W	
R435	1-249-425-11	CARBON	4.7K	5%	1/6W	
R436	1-247-717-11	CARBON	2.2K	5%	1/4W	
R437	1-247-851-00	CARBON	6.8K	5%	1/6W	
R438	1-247-725-11	CARBON	10K	5%	1/4W	
R439	1-249-405-11	CARBON	100	5%	1/6W	
R440	1-249-425-11	CARBON	4.7K	5%	1/6W	
R441	1-249-429-11	CARBON	10K	5%	1/6W	
R442	1-249-429-11	CARBON	10K	5%	1/6W	
R443	1-247-833-00	CARBON	1.2K	5%	1/6W	
R444	1-247-851-00	CARBON	6.8K	5%	1/6W	
R445	1-249-423-11	CARBON	3.3K	5%	1/6W	
R446	1-249-429-11	CARBON	10K	5%	1/6W	
R447	1-249-421-11	CARBON	2.2K	5%	1/6W	
R448	1-249-417-11	CARBON	1K	5%	1/6W	
R449	1-247-708-11	CARBON	470	5%	1/4W	
R450	1-249-417-11	CARBON	1K	5%	1/6W	
R451	1-249-469-11	CARBON	100K	5%	1/4W	
R453	1-249-433-11	CARBON	22K	5%	1/6W	
R454	1-249-460-11	CARBON	15K	5%	1/4W	
R455	1-249-460-11	CARBON	15K	5%	1/4W	
R456	1-249-429-11	CARBON	10K	5%	1/6W	
R457	1-249-417-11	CARBON	1K	5%	1/6W	
R458	1-249-417-11	CARBON	1K	5%	1/6W	
R459	1-249-417-11	CARBON	1K	5%	1/6W	
R460	1-247-704-11	CARBON	220	5%	1/4W	
R461	1-247-704-11	CARBON	220	5%	1/4W	
R462	1-247-704-11	CARBON	220	5%	1/4W	
R463	1-247-804-00	CARBON	75	5%	1/6W	
R464	1-247-804-00	CARBON	75	5%	1/6W	
R465	1-247-804-00	CARBON	75	5%	1/6W	
R466	1-247-804-00	CARBON	75	5%	1/6W	
R467	1-247-104-00	CARBON	75	5%	1/4W	
R468	1-247-813-00	CARBON	180	5%	1/6W	
R469	1-247-813-00	CARBON	180	5%	1/6W	
R470	1-247-713-11	CARBON	1K	5%	1/4W	
R471	1-249-440-11	CARBON	82K	5%	1/6W	
R472	1-249-429-11	CARBON	10K	5%	1/6W	
R473	1-249-425-11	CARBON	4.7K	5%	1/6W	
R474	1-247-704-11	CARBON	220	5%	1/4W	
R478	1-247-704-11	CARBON	220	5%	1/4W	
R479	1-247-700-11	CARBON	100	5%	1/4W	
R480	1-247-700-11	CARBON	100	5%	1/4W	
R481	1-247-700-11	CARBON	100	5%	1/4W	
R482	1-247-700-11	CARBON	100	5%	1/4W	
R483	1-249-405-11	CARBON	100	5%	1/6W	
R484	1-249-405-11	CARBON	100	5%	1/6W	
R485	1-247-718-11	CARBON	2.7K	5%	1/4W	
R486	1-249-469-11	CARBON	100K	5%	1/4W	
R487	1-247-875-00	CARBON	68K	5%	1/6W	
R488	1-246-541-00	CARBON	680K	5%	1/4W	
R489	1-247-885-00	CARBON	180K	5%	1/6W	
R491	1-249-423-11	CARBON	3.3K	5%	1/6W	
R492	1-249-423-11	CARBON	3.3K	5%	1/6W	
R493	1-249-423-11	CARBON	3.3K	5%	1/6W	
R494	1-249-429-11	CARBON	10K	5%	1/6W	
R497	1-247-804-00	CARBON	75	5%	1/6W	
R498	1-247-804-00	CARBON	75	5%	1/6W	
R499	1-247-104-00	CARBON	75	5%	1/4W	
R503	1-249-427-11	CARBON	6.8K	5%	1/6W	F
R512	1-216-440-00	METAL OXIDE	18K	5%	1W	F
R513	1-249-423-11	CARBON	3.3K	5%	1/6W	
R530	1-215-373-31	METAL	10	1%	1/6W	
R532	1-247-711-11	CARBON	680	5%	1/4W	
R536	1-249-437-11	CARBON	47K	5%	1/6W	
R537	1-249-435-11	CARBON	33K	5%	1/6W	
R539	1-249-429-11	CARBON	10K	5%	1/6W	
R551	1-215-373-31	METAL	10	1%	1/6W	
R552	1-247-226-00	CARBON	270	5%	1/2W	
R553	1-216-373-11	METAL OXIDE	2.2	5%	2W	F
R554	1-215-867-00	METAL OXIDE	470	5%	1W	F
R801	1-247-819-00	CARBON	330	5%	1/6W	
R802	1-249-425-11	CARBON	4.7K	5%	1/6W	
R803	1-205-642-00	CEMENTED	3.3K	10%	5W	
R804	1-247-721-11	CARBON	4.7K	5%	1/4W	F

Ref.No.	Part No.	Description				Remark
R805	1-249-421-11	CARBON	2.2K	5%	1/6W	
R806	1-249-437-11	CARBON	47K	5%	1/6W	
R807	1-215-867-00	METAL OXIDE	470	5%	1W	F
R808	1-215-883-11	METAL OXIDE	33	5%	2W	F
R809	1-247-887-00	CARBON	220K	5%	1/6W	
R811	1-249-435-11	CARBON	33K	5%	1/6W	
R812	1-247-833-00	CARBON	1.2K	5%	1/6W	
R813	1-249-425-11	CARBON	4.7K	5%	1/6W	
R814	1-249-429-11	CARBON	10K	5%	1/6W	F
R815	1-247-823-00	CARBON	470	5%	1/6W	
R816	1-249-427-11	CARBON	6.8K	5%	1/6W	F
R817	1-247-883-00	CARBON	150K	5%	1/6W	
R819	1-216-429-00	METAL OXIDE	270	5%	1W	F
R820	1-249-429-11	CARBON	10K	5%	1/6W	
R821	1-202-830-00	SOLID	10K	10%	1/2W	
R822	1-202-814-91	SOLID	33K	10%	1/2W	
R823	1-249-433-11	CARBON	22K	5%	1/6W	
R824	1-216-427-00	METAL OXIDE	120	5%	1W	F
R825	1-249-402-11	CARBON	56	5%	1/6W	F
R826	1-249-425-11	CARBON	4.7K	5%	1/6W	
R827	1-247-845-00	CARBON	3.9K	5%	1/6W	
R828	1-249-435-11	CARBON	33K	5%	1/6W	
R829	1-249-421-11	CARBON	2.2K	5%	1/6W	F
R830	1-215-857-11	METAL OXIDE	10	5%	1W	F
R832	1-215-882-00	METAL OXIDE	22	5%	2W	F
R851	1-249-382-11	CARBON	1.2	5%	1/6W	F
R852	1-217-505-11	FUSIBLE	1K	5%	1W	F
R853	1-249-377-11	CARBON	0.47	5%	1/6W	F
R854	1-249-377-11	CARBON	0.47	5%	1/6W	F
R855	1-202-830-00	SOLID	10K	10%	1/2W	
R856	1-247-151-00	CARBON	6.8K	5%	1/4W	
R857	1-246-527-00	CARBON	180K	5%	1/4W	
R858	1-247-849-00	CARBON	5.6K	5%	1/6W	
R859	1-215-866-11	METAL OXIDE	330	5%	1W	F
R860	1-247-883-00	CARBON	150K	5%	1/6W	
R4001	1-247-815-00	CARBON	220	5%	1/6W	
R4002	1-249-415-11	CARBON	680	5%	1/6W	
R4003	1-249-421-11	CARBON	2.2K	5%	1/6W	
R4004	1-249-417-11	CARBON	1K	5%	1/6W	
R4005	1-249-417-11	CARBON	1K	5%	1/6W	
R4006	1-249-417-11	CARBON	1K	5%	1/6W	

VARIABLE RESISTOR

RV302	1-230-626-41	RES, ADJ, CARBON 470
RV303	1-230-630-11	RES, ADJ, CARBON 10K
RV304	1-230-631-11	RES, ADJ, CARBON 22K
RV305	1-230-916-11	RES, VAR, CARBON 10K
RV401	1-230-631-11	RES, ADJ, CARBON 22K
RV402	1-230-631-11	RES, ADJ, CARBON 22K
RV403	1-230-271-00	RES, ADJ, CARBON 4.7K
RV505	1-230-915-11	RES, VAR, CARBON 10K
RV551	1-224-250-XX	RES, ADJ, METAL GLAZE 2.2K
RV801	1-223-102-00	RES, ADJ, WIREWOUND 120

SWITCH

S002	1-554-804-11	SWITCH, PUSH (1 KEY)
S003	1-554-804-11	SWITCH, PUSH (1 KEY)
S004	1-554-804-11	SWITCH, PUSH (1 KEY)
S005	1-554-804-11	SWITCH, PUSH (1 KEY)
S006	1-554-804-11	SWITCH, PUSH (1 KEY)
S007	1-554-804-11	SWITCH, PUSH (1 KEY)
S008	1-554-804-11	SWITCH, PUSH (1 KEY)
S009	1-554-804-11	SWITCH, PUSH (1 KEY)
S010	1-554-804-11	SWITCH, PUSH (1 KEY)
S011	1-554-804-11	SWITCH, PUSH (1 KEY)
S301	1-570-704-11	SWITCH, ROTARY

BLOCK

SCM301	1-464-545-31	BLOCK (SCB-3)

SPARK GAP

SG801	1-519-063-XX	DISCHARGING GAP

TRANSFORMER

T301	1-404-524-11	DAT
T801	1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE
T802	1-421-268-00	H.PCT
T851 ⚠	1-439-311-32	TRANSFORMER ASSY, FLYBACK

CRYSTAL

X301	1-567-504-11	OSCILLATOR, CRYSTAL

MODULE

YCM301	1-235-833-11	YC MODULE

****

*1-618-984-11 D BOARD
****

CAPACITOR

C501	1-108-845-00	MYLAR	0.047MF	10%	50V
C502	1-108-825-91	MYLAR	0.001MF	10%	50V
C503	1-124-903-00	ELECT	1MF	20%	50V
C504	1-106-176-00	MYLAR	0.0015MF	10%	50V
C506	1-108-837-00	MYLAR	0.01MF	10%	50V
C507	1-108-841-91	MYLAR	0.022MF	10%	50V
C508	1-124-903-00	ELECT	1MF	20%	50V
C509	1-124-903-00	ELECT	1MF	20%	50V
C510	1-108-841-91	MYLAR	0.022MF	10%	50V
C511	1-106-180-00	MYLAR	0.0022MF	5%	100V
C512	1-129-794-00	FILM	0.0033MF	2%	100V
C513	1-124-903-00	ELECT	1MF	20%	50V
C514	1-123-321-00	ELECT	220MF	20%	16V
C515	1-106-212-00	MYLAR	0.047MF	5%	100V
C516	1-124-445-00	ELECT	100MF	20%	16V

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

D F

Ref.No.	Part No.	Description			Remark
C517	1-124-896-00	ELECT	33MF	20%	16V
C518	1-131-371-00	TANTALUM	10MF	10%	16V
C519	1-136-173-00	FILM	0.47MF	5%	50V
C521	1-124-903-00	ELECT	1MF	20%	50V
C522	1-108-837-00	MYLAR	0.01MF	10%	50V
C523	1-124-903-00	ELECT	1MF	20%	50V
C524	1-108-593-00	MYLAR	0.039MF	10%	50V
C527	1-102-973-00	CERAMIC	100PF	5%	50V
C530	1-101-003-00	CERAMIC	0.0047MF		50V
		DIODE			
D502	8-719-911-19	DIODE 1SS119			
		CONNECTOR			
F1	*1-562-370-21	CONNECTOR, BOARD TO BOARD 18P			
		IC			
IC501	8-759-100-60	IC UPC1377C			
		RESISTOR			
R501	1-247-819-00	CARBON	330	5%	1/6W
R502	1-247-705-11	CARBON	270	5%	1/4W
R504	1-249-440-11	CARBON	82K	5%	1/6W
R505	1-249-423-11	CARBON	3.3K	5%	1/6W
R506	1-247-868-00	CARBON	36K	5%	1/6W
R507	1-247-857-00	CARBON	12K	5%	1/6W
R511	1-249-440-11	CARBON	82K	5%	1/6W
R514	1-215-460-00	METAL	43K	1%	1/6W
R515	1-249-425-11	CARBON	4.7K	5%	1/6W
R517	1-247-859-00	CARBON	15K	5%	1/6W
R519	1-249-425-11	CARBON	4.7K	5%	1/6W
R522	1-215-463-00	METAL	56K	1%	1/6W
R524	1-215-475-00	METAL	180K	1%	1/6W
R525	1-215-455-00	METAL	27K	1%	1/6W
R526	1-249-435-11	CARBON	33K	5%	1/6W
R527	1-249-422-11	CARBON	2.7K	5%	1/6W
R528	1-247-845-00	CARBON	3.9K	5%	1/6W
R529	1-215-461-00	METAL	47K	1%	1/6W
		VARIABLE RESISTOR			
RV501	1-228-160-11	RES, ADJ, METAL GLAZE 5K			
RV502	1-230-626-41	RES, ADJ, CARBON 470			
RV503	1-230-626-41	RES, ADJ, CARBON 470			

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*A-1245-341-A F BOARD, COMPLETE
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*4-363-404-00 HOLDER, IC

Ref.No.	Part No.	Description			Remark
		CAPACITOR			
C601 ⚠	1-136-360-51	FILM	0.22MF	20%	250V
C602 ⚠	1-161-964-61	CERAMIC	0.0047MF		250V
C603 ⚠	1-161-964-61	CERAMIC	0.0047MF		250V
C604	1-161-964-00	CERAMIC	0.0047MF		250V
C605	1-125-318-00	ELECT(BLOCK)	220MF	20%	400V
C606	1-136-065-00	FILM	0.0027MF	3%	2KV
C607	1-102-030-00	CERAMIC	330PF	10%	500V
C608	1-123-024-00	ELECT	33MF		160V
C609	1-124-479-11	ELECT	330MF	20%	25V
C610	1-102-030-00	CERAMIC	330PF	10%	500V
C611	1-124-445-00	ELECT	100MF	20%	16V
C612	1-108-688-91	MYLAR	0.0047MF	10%	200V
C613	1-102-030-00	CERAMIC	330PF	10%	500V
C614	1-124-929-11	ELECT	22MF	20%	100V
C615	1-161-973-00	CERAMIC	220PF	10%	400V
C616 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C617	1-124-927-11	ELECT	4.7MF	20%	100V
C617B	1-101-003-00	CERAMIC	0.0047MF		50V
C618	1-101-005-00	CERAMIC	0.022MF		50V
C619	1-124-907-00	ELECT	10MF	20%	50V
C620	1-108-849-00	MYLAR	0.1MF	10%	50V
C621	1-106-180-00	MYLAR	0.0022MF	5%	100V
C622	1-124-904-00	ELECT	2.2MF	20%	50V
C623	1-102-110-00	CERAMIC	220PF	10%	50V
C624	1-123-617-00	ELECT	10MF	20%	16V
C625	1-161-973-00	CERAMIC	220PF	10%	400V
C626	1-102-038-00	CERAMIC	0.001MF		500V
C627	1-108-837-00	MYLAR	0.01MF	10%	50V
C630	1-102-820-00	CERAMIC	330PF	5%	50V
C631	1-102-074-00	CERAMIC	0.001MF	10%	50V
C633	1-123-024-00	ELECT	33MF		160V
C634 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C636 ⚠	1-136-360-51	FILM	0.22MF	20%	250V
C637 ⚠	1-136-360-51	FILM	0.22MF	20%	250V
C641	1-102-074-00	CERAMIC	0.001MF	10%	50V
C642	1-124-903-00	ELECT	1MF	20%	50V
		DIODE			
D601 ⚠	8-719-503-06	DIODE S3WB60Z			
D603	8-719-925-06	DIODE ERC25-06S			
D604	8-719-901-93	DIODE V19E			
D605	8-719-110-41	DIODE RD15ES-B2			
D606	8-719-300-76	DIODE RH1A			
D607	8-719-109-93	DIODE RD6.2ES-B2			
D608	8-719-300-76	DIODE RH1A			
D609	8-719-911-19	DIODE 1SS119			
D611	8-719-200-02	DIODE 10E2			
D612	8-719-901-93	DIODE V19E			
D613	8-719-911-19	DIODE 1SS119			
		CONNECTOR			
F1	*1-508-767-00	5P PLUG			
F3	*1-508-786-00	2P PLUG (M)			
F5	*1-506-348-XX	3P PLUG (L)			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

F A

Ref.No.	Part No.	Description				Remark
F6	*1-506-348-XX	3P PLUG (L)				
		FUSE				
F601	⚠.1-532-237-11	FUSE, TIME-LAG 3.15A/250V				
	1-533-189-11	HOLDER, FUSE; F601				
		IC				
IC601	8-759-100-75	IC UPC1394C				
		COIL				
L601	1-408-225-00	MICRO INDUCTOR 3.3UH				
L602	1-408-225-00	MICRO INDUCTOR 3.3UH				
L603	1-407-365-00	COIL, CHOKE				
L604	1-408-225-00	MICRO INDUCTOR 3.3UH				
L605	1-459-215-00	CORE COIL				
		TRANSISTOR				
Q601	8-729-206-04	TRANSISTOR 2SD1554				
Q602	8-729-195-82	TRANSISTOR 2SC2958				
Q603	8-729-178-54	TRANSISTOR 2SC2785				
Q604	8-729-178-54	TRANSISTOR 2SC2785				
		RESISTOR				
R601	1-205-893-11	CEMENTED	330	5%	20W	
R602	1-205-687-00	CEMENTED	54K	10%	7W	
R603	1-215-929-11	METAL OXIDE	100K	5%	3W	F
R604	1-247-805-00	CARBON	82	5%	1/6W	
R605	1-247-851-00	CARBON	6.8K	5%	1/6W	
R606	1-247-889-00	CARBON	270K	5%	1/6W	
R607	1-215-896-00	METAL OXIDE	4.7K	5%	2W	F
R608	1-215-896-00	METAL OXIDE	4.7K	5%	2W	F
R609	1-246-520-00	CARBON	91K	5%	1/4W	
R610	1-247-866-00	CARBON	30K	5%	1/6W	
R611	1-249-437-11	CARBON	47K	5%	1/6W	
R612	1-247-819-00	CARBON	330	5%	1/6W	
R613	1-249-437-11	CARBON	47K	5%	1/6W	
R614	1-247-895-00	CARBON	470K	5%	1/6W	
R615	1-249-433-11	CARBON	22K	5%	1/6W	
R616	1-249-429-11	CARBON	10K	5%	1/6W	
R617	1-247-840-00	CARBON	2.4K	5%	1/6W	
R618	1-249-437-11	CARBON	47K	5%	1/6W	
R619	1-249-429-11	CARBON	10K	5%	1/6W	
R620	1-249-441-11	CARBON	100K	5%	1/6W	
R621	1-247-712-11	CARBON	820	5%	1/4W	
R622	1-247-815-00	CARBON	220	5%	1/6W	
R623	1-247-891-00	CARBON	330K	5%	1/6W	
R624	1-247-717-11	CARBON	2.2K	5%	1/4W	
R625	⚠.1-247-289-11	CARBON	8.2M	5%	1W	
R626	1-249-433-11	CARBON	22K	5%	1/6W	
R627	1-217-197-11	WIREWOUND	0.56	10%	2W	F
R628	1-244-943-00	CARBON	820K	5%	1/2W	
R629	1-249-441-11	CARBON	100K	5%	1/6W	
R630	1-247-891-00	CARBON	330K	5%	1/6W	
R631	⚠.1-205-763-11	CEMENTED	3.3	10%	10W	F
R632	1-202-733-00	SOLID	15M	10%	1/2W	
R633	1-247-829-00	CARBON	820	5%	1/6W	
R635	⚠.1-246-521-75	CARBON	100K	5%	1/4W	
R636	⚠.1-246-521-75	CARBON	100K	5%	1/4W	
R638	⚠.1-214-937-81	METAL	1M	1%	1/2W	
		VARIABLE RESISTOR				
RV601	1-230-231-11	RES, ADJ, CERAMIC CARBON 2.2K				
		TRANSFORMER				
T601	⚠.1-421-776-11	LFT				
T602	⚠.1-448-575-11	S.R.T (CONVERTER TRANSFORMER)				
T603	1-446-194-00	TRANSFORMER, CHOPPER DRIVE				
T604	⚠.1-421-783-11	TRANSFORMER, LINE FILTER				
		THERMISTOR				
THP601	⚠.1-806-165-11	THERMISTOR (POSITIVE)				

****

*A-1296-189-A A BOARD, COMPLETE
****

		CONNECTOR			
A1	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P			
A2	*1-560-127-00	PLUG, CONNECTOR (2.5MM) 7P			
A5	*1-560-126-00	PLUG, CONNECTOR (2.5MM PITCH)			
A6	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			
		CAPACITOR			
C151	1-106-220-00	MYLAR	0.1MF	10%	100V
C153	1-123-617-00	ELECT	10MF	20%	16V
C154	1-124-902-00	ELECT	0.47MF	20%	50V
C155	1-123-617-00	ELECT	10MF	20%	16V
C156	1-124-445-00	ELECT	100MF	20%	16V
C157	1-123-617-00	ELECT	10MF	20%	16V
C158	1-108-849-00	MYLAR	0.1MF	10%	50V
C159	1-108-599-00	MYLAR	0.068MF	10%	50V
C160	1-124-896-00	ELECT	33MF	20%	16V
C161	1-101-004-00	CERAMIC	0.01MF		50V
C168	1-101-004-00	CERAMIC	0.01MF		50V
C169	1-101-004-00	CERAMIC	0.01MF		50V
C170	1-101-004-00	CERAMIC	0.01MF		50V
C201	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C203	1-124-903-00	ELECT	1MF	20%	50V
C204	1-124-896-00	ELECT	33MF	20%	16V
C205	1-123-321-00	ELECT	220MF	20%	16V
C206	1-123-332-00	ELECT	47MF	20%	16V
C251	1-124-555-00	ELECT	1000MF	20%	16V
C252	1-102-119-00	CERAMIC	0.0015MF	10%	50V
C253	1-124-904-00	ELECT	2.2MF	20%	50V
C254	1-123-332-00	ELECT	47MF	20%	16V

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A C

Ref.No.	Part No.	Description				Remark
C255	1-124-475-11	ELECT	470MF	20%	16V	
C256	1-108-849-00	MYLAR	0.1MF	10%	50V	
C259	1-124-904-00	ELECT	2.2MF	20%	50V	
C260	1-124-445-00	ELECT	100MF	20%	16V	
C261	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C901	1-101-003-00	CERAMIC	0.0047MF		50V	
		DIODE				
D154	8-719-109-89	DIODE RD5.6ES-B2				
D201	8-719-110-17	DIODE RD10ES-B2				
		IC				
IC251	8-759-101-77	IC UPC1241H				
		IF BLOCK				
IF201	1-464-553-11	IF BLOCK (IFB-389)				
		COIL				
L152	1-408-418-00	MICRO INDUCTOR 56UH				
L201	1-408-397-00	MICRO INDUCTOR 1UH				
		TRANSISTOR				
Q151	8-729-900-61	TRANSISTOR DTA114ES				
Q152	8-729-900-61	TRANSISTOR DTA114ES				
Q153	8-729-900-61	TRANSISTOR DTA114ES				
Q157	8-729-178-54	TRANSISTOR 2SC2785				
Q201	8-729-212-02	TRANSISTOR 2SC2120-Y				
Q202	8-729-117-54	TRANSISTOR 2SA1175				
Q251	8-729-378-84	TRANSISTOR 2SD788				
		RESISTOR				
R152	1-249-433-11	CARBON	22K	5%	1/6W	
R154	1-249-429-11	CARBON	10K	5%	1/6W	
R156	1-249-435-11	CARBON	33K	5%	1/6W	
R157	1-247-891-00	CARBON	330K	5%	1/6W	
R159	1-247-708-11	CARBON	470	5%	1/4W	
R165	1-247-823-00	CARBON	470	5%	1/6W	
R171	1-247-823-00	CARBON	470	5%	1/6W	
R172	1-247-823-00	CARBON	470	5%	1/6W	
R173	1-247-823-00	CARBON	470	5%	1/6W	
R174	1-247-823-00	CARBON	470	5%	1/6W	
R201	1-247-713-11	CARBON	1K	5%	1/4W	
R202	1-247-873-00	CARBON	56K	5%	1/6W	
R203	1-249-435-11	CARBON	33K	5%	1/6W	
R206	1-249-417-11	CARBON	1K	5%	1/6W	
R208	1-249-417-11	CARBON	1K	5%	1/6W	
R209	1-249-405-11	CARBON	100	5%	1/6W	
R220	1-217-387-00	FUSIBLE	10	5%	1/4W	F
R221	1-247-823-00	CARBON	470	5%	1/6W	
R251	1-247-819-00	CARBON	330	5%	1/6W	
R252	1-249-433-11	CARBON	22K	5%	1/6W	

Ref.No.	Part No.	Description				Remark
R253	1-249-421-11	CARBON	2.2K	5%	1/6W	
R254	1-249-447-11	CARBON	1	5%	1/4W	
R255	1-217-430-00	FUSIBLE	4.7	5%	1/2W	F
R259	1-249-460-11	CARBON	15K	5%	1/4W	
R260	1-247-713-11	CARBON	1K	5%	1/4W	
		TUNER				
TU151⚠	1-463-577-11	TUNER, ET (BT-883A)				

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	*A-1330-757-A	C BOARD, COMPLETE				
		**********				
	1-526-819-11	SOCKET, CRT				
	*4-374-912-01	COVER (MAIN), CV VOL				
	*4-374-913-01	COVER (REAR LID), CV VOL				
		CONNECTOR				
C1	*1-506-371-00	2P PLUG (L)				
C2	*1-508-786-00	2P PLUG (M)				
C3	*1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P				
C4	*1-508-765-00	3P PLUG (M)				
		CAPACITOR				
C702	1-102-114-00	CERAMIC	470PF	10%	50V	
C703	1-102-111-00	CERAMIC	270PF	10%	50V	
C704	1-102-112-00	CERAMIC	330PF	10%	50V	
C705	1-162-116-00	CERAMIC	680PF	10%	2KV	
C706	1-129-714-00	FILM	0.01MF	10%	630V	
C716	1-102-244-00	CERAMIC	220PF	10%	500V	
		COIL				
L704	1-408-452-31	MICRO INDUCTOR 68UH				
		TRANSISTOR				
Q701	8-729-326-11	TRANSISTOR 2SC2611				
Q702	8-729-326-11	TRANSISTOR 2SC2611				
Q703	8-729-326-11	TRANSISTOR 2SC2611				
		RESISTOR				
R701	1-249-422-11	CARBON	2.7K	5%	1/6W	
R703	1-247-817-00	CARBON	270	5%	1/6W	
R704	1-249-423-11	CARBON	3.3K	5%	1/6W	
R705	1-202-824-00	SOLID	3.3K	10%	1/2W	
R706	1-216-463-00	METAL OXIDE	12K	5%	2W	F
R707	1-249-420-11	CARBON	1.8K	5%	1/6W	
R708	1-247-821-00	CARBON	390	5%	1/6W	
R709	1-249-414-11	CARBON	560	5%	1/6W	
R710	1-249-423-11	CARBON	3.3K	5%	1/6W	
R711	1-202-824-00	SOLID	3.3K	10%	1/2W	
R712	1-216-463-00	METAL OXIDE	12K	5%	2W	F
R713	1-249-420-11	CARBON	1.8K	5%	1/6W	
R714	1-247-821-00	CARBON	390	5%	1/6W	
R715	1-249-414-11	CARBON	560	5%	1/6W	
R716	1-249-423-11	CARBON	3.3K	5%	1/6W	

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Ref.No.	Part No.	Description				Remark
R717	1-202-824-00	SOLID	3.3K	10%	1/2W	
R718	1-216-463-00	METAL OXIDE	12K	5%	2W	F
R719	1-202-842-91	SOLID	220K	10%	1/2W	
R720	1-202-719-00	SOLID	1M	10%	1/2W	
R721	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R722	1-202-848-00	SOLID	680K	10%	1/2W	
R723	1-202-838-00	SOLID	100K	10%	1/2W	
R724	1-249-419-11	CARBON	1.5K	5%	1/6W	
R731	1-249-405-11	CARBON	100	5%	1/6W	
R732	1-249-405-11	CARBON	100	5%	1/6W	
R733	1-249-405-11	CARBON	100	5%	1/6W	

VARIABLE RESISTOR

RV701	1-228-723-00	RES, ADJ, CERAMIC CARBON 4.7K
RV702	1-228-721-00	RES, ADJ, CERAMIC CARBON 2.2K
RV703	1-228-723-00	RES, ADJ, CERAMIC CARBON 4.7K
RV704	1-228-721-00	RES, ADJ, CERAMIC CARBON 2.2K
RV705	1-228-723-00	RES, ADJ, CERAMIC CARBON 4.7K
RV706	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M
RV707	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M
RV708⚠	1-230-798-11	RES, ADJ, METAL GLAZE 90M
RV709	1-228-725-00	RES, ADJ, CERAMIC CARBON 22K

****

MISCELLANEOUS
****

	⚠.1-426-145-13	COIL, DEGAUSSING
L902	⚠.1-451-249-31	DEFLECTION YOKE (SY-125B)
	1-452-032-00	MAGNET, DISK; 10MM ø
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ø
	1-452-277-00	MAGNET, BMC
	1-503-344-21	SPEAKER
	⚠.1-534-817-61	CORD, POWER
	*1-558-539-11	CABLE, P-P
	⚠.1-563-204-12	SOCKET, ANTENNA (PAL/SECAM)
S901	⚠.1-554-966-12	SWITCH, PUSH (AC POWER)(1 KEY)
V901	⚠.8-735-553-05	CRT (A34JBU10X)

ACCESSORIES AND PACKING MATERIALS
****

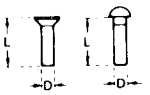
Part No.	Description	Remark
A-1470-742-A	COMMANDER ASSY (RM-651)	
1-501-329-11	ANTENNA, TELESCOPIC	
1-513-382-00	ANTENNA MUTCHING	
4-374-990-01	CUSHION (UPPER) (ASSY)	
4-374-991-01	CUSHION (LOWER) (ASSY)	
*4-378-262-01	BAG, PROTECTION	
*4-381-635-01	INDIVIDUAL CARTON	
4-482-226-11	MANUAL, INSTRUCTION	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

HARDWARE NOMENCLATURE

Screw: – P 3 x 10

- L: *Length in mm*
- D: *Diameter in mm*
- *Type of head*
- *Indicated slotted-head only. Unless otherwise indicated, it means cross-recessed head (Phillips type).*



Nut, Washer, Retaining ring: N 3

- *Diameter of usable screw or shaft*
- *Reference designation*

Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	

86GR0422-1
Printed in Japan
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SONY
TRINITRON® COLOUR TV
KV-1442ECPS/RM-651

West Germany Model

Chassis No. SCC-788A-A

XE-5 CHASSIS

SAFETY-RELATED COMPONENT WARNING !!

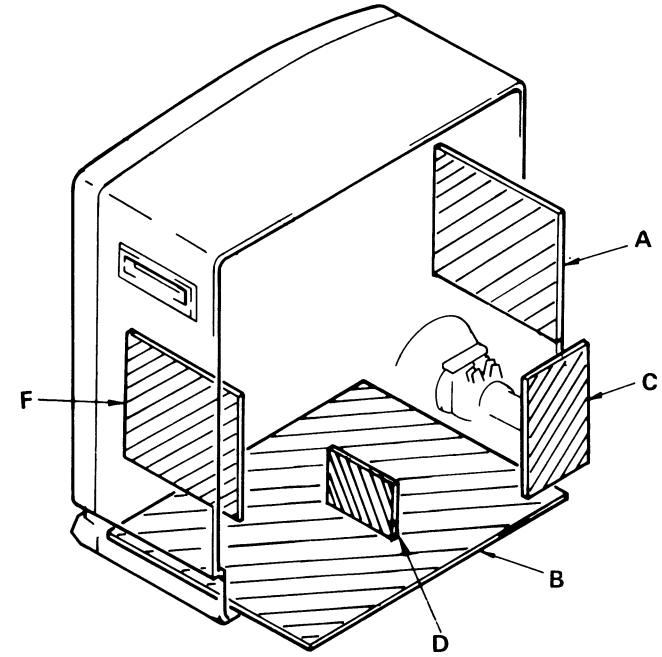
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Note:

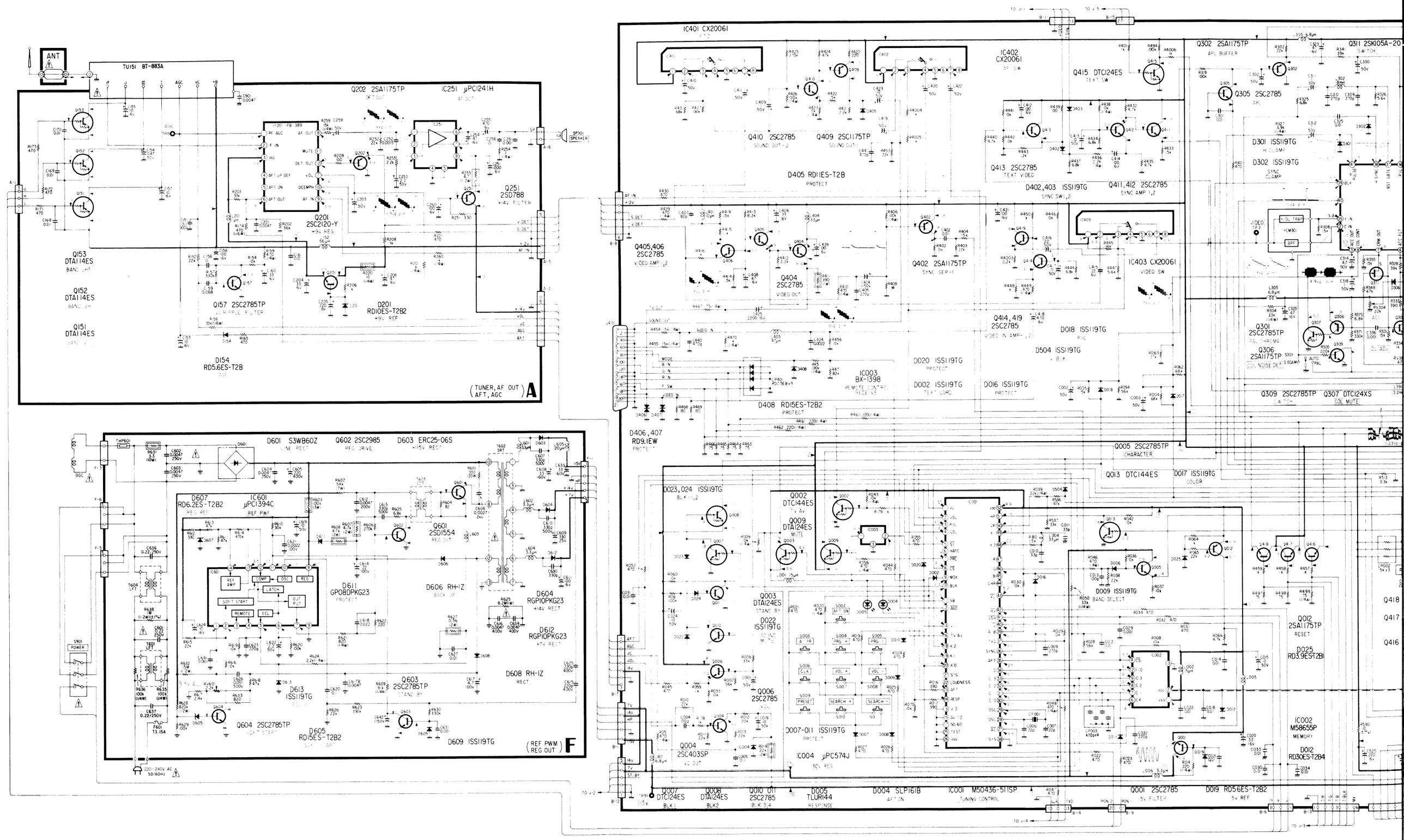
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics
- All resistors are in ohms, 1/6 W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- no mark : PAL
  ( ) : SECAM
- Readigns are taken with color-bar signal input.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10MΩ digital multimeter.
- Voltage variations may be noted due to normal production tolerances.
- : B+ bus.
- : B− bus.
- : signal path.
- All voltage are in "V".

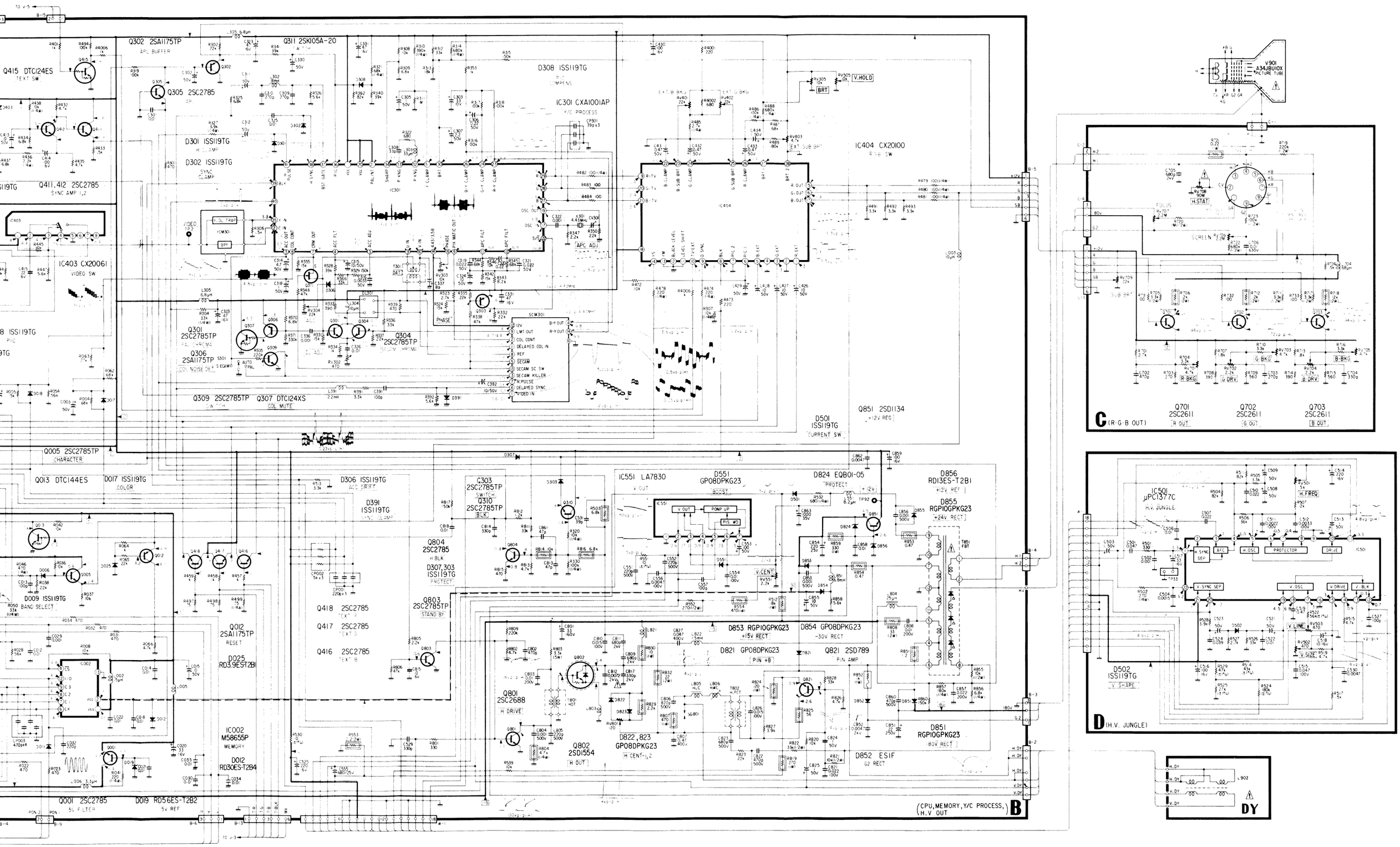
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

CIRCUIT BOARDS LOCATION



SCHEMATIC DIAGRAM

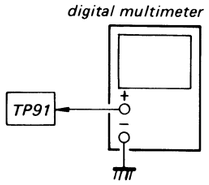



Q415 DTC124ES
TEXT SW
Q302 2SA1175TP
APC BUFFER
Q311 2SK105A-20
D308 1SS119TG
IC301 CXA1001AP
Y/C PROCESS
D301 1SS119TG
H CLAMP
D302 1SS119TG
SYNC CLAMP
Q411,412 2SC2785
SYNC AMP 1,2
IC404 CX20100
R-G-B SW
IC403 CX20061
VIDEO SW
Q305 2SC2785
Q301 2SC2785TP
Q306 2SA1175TP
Q304 2SC2785TP
Q309 2SC2785TP
Q307 DTC124XS
COL MUTE
Q851 2SD1134
-12V REG
D501 1SS119TG
CURRENT SW
Q005 2SC2785TP
CHARACTER
Q013 DTC144ES
D017 1SS119TG
COLOR
D306 1SS119TG
ACC DRIVE
D391 1SS119TG
SYNC CLAMP
C303 2SC2785TP
SWITCH
Q310 2SC2785TP
BLK
IC551 LA7830
V OUT
D551 GP08DPKG23
BOOST
D824 EQB01-05
PROTECT
D856 RD13ES-T2B1
+12V REF
D855 RGP10GPKG23
+24V RECT
Q804 2SC2785
H BLK
D307,303 1SS119TG
PROTECT
Q803 2SC2785TP
STAND BY
D009 1SS119TG
BAND SELECT
Q418 2SC2785
TEXT G
Q417 2SC2785
TEXT B
Q416 2SC2785
TEXT R
Q012 2SA1175TP
RESET
D025 RD3.9ES-T2B1
IC002 M58655P
MEMORY
D012 RD30ES-T2B4
Q001 2SC2785
5V FILTER
D019 RD56ES-T2B2
5V REF
D853 RGP10GPKG23
+15V RECT
D854 GP08DPKG23
-30V RECT
D821 GP08DPKG23
PIN +B
Q821 2SD789
PIN AMP
Q801 2SC2688
H DRIVE
Q802 2SD1554
H OUT
D822,823 GP08DPKG23
H CENT-1,2
D852 ESIF
G2 RECT
D851 RGP10GPKG23
180V RECT
(CPU,MEMORY,Y/C PROCESS, H.V OUT)
B
V901 A34JBU10X
PICTURE TUBE
Q701 2SC2611
R OUT
Q702 2SC2611
G OUT
Q703 2SC2611
B OUT
C (R-G-B OUT)
IC501 μPC1377C
H.V. JUNGLE
D502 1SS119TG
V SHAPE
D (H.V. JUNGLE)
DY

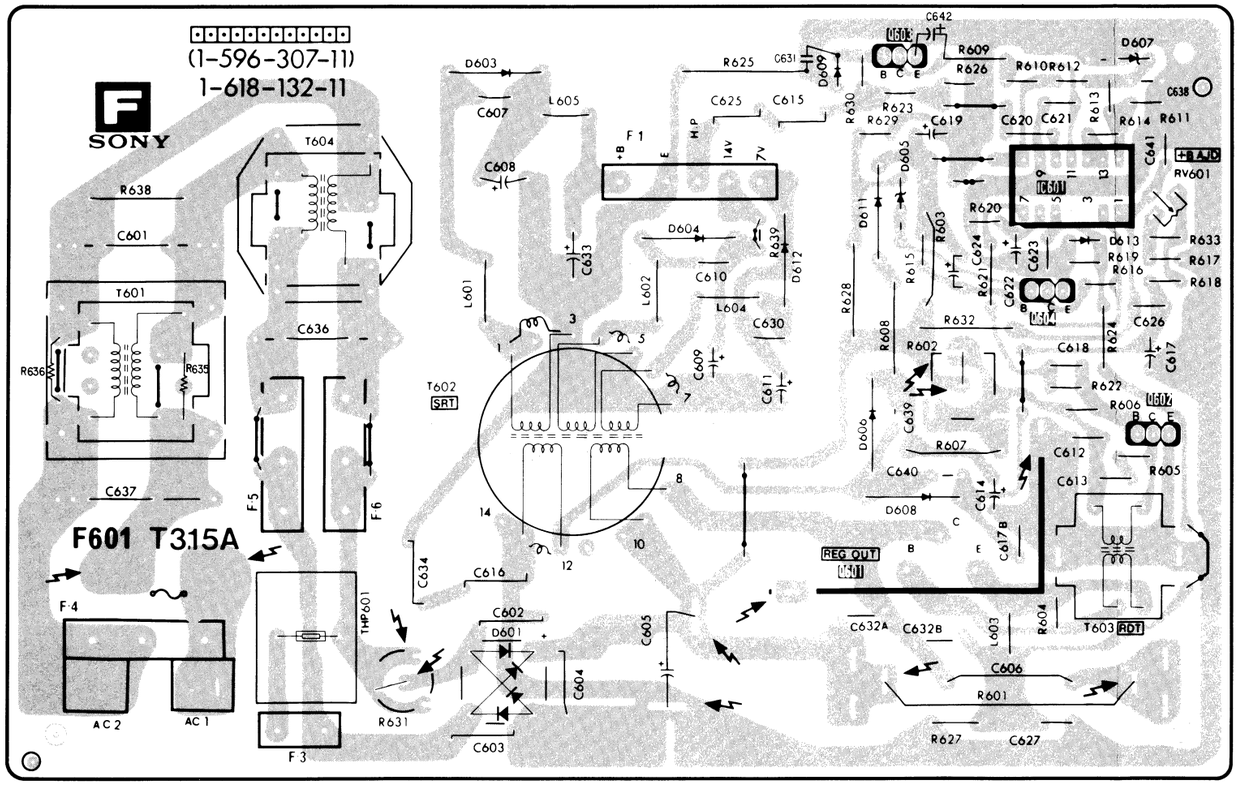
PRINTED WIRING BOARD

115 V ADJ

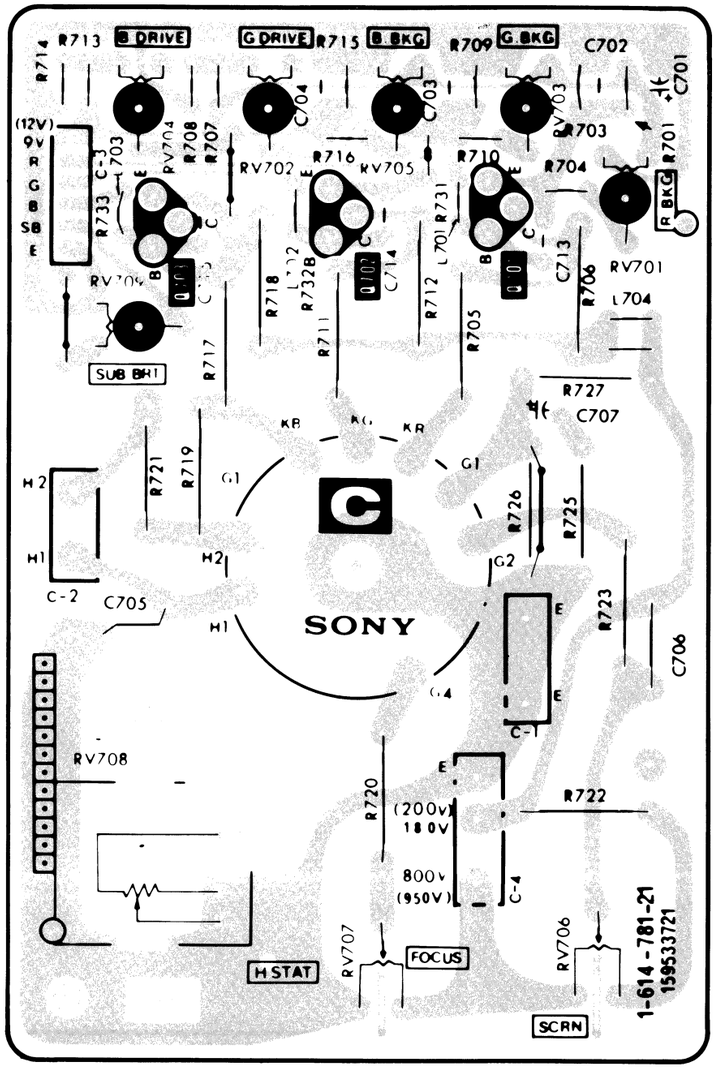
Adjust RV601 for 115±0.5 V de on the digital multimeter.



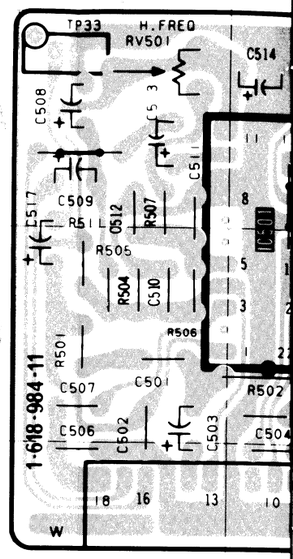
F [REF PWM / REG OUT]



C [R. G. B OUT]

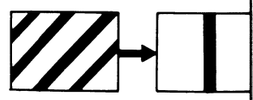


D [H. V. JUNGLE]



H·FREQ ADJUSTMENT

1. Input the PAL color bar signal.
2. Set the PICTURE, COLOUR a
   click.
3. Short circuit between pin and
   wire.
4. Adjust RV501 for the image sh
5. Remove a jumper wire.
6. Change tuner channel and con
   change.



fo: too low — fo: suitable (fo = 15625

V·size | V·LINE | V·CENT

Adjust RV502, RV503 and RV5
picture.

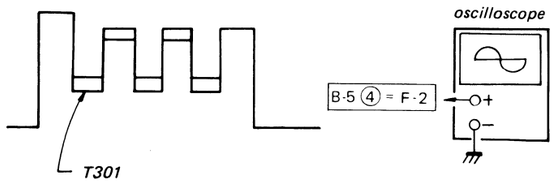
ANTI-PAL, LINE CRAWLING ADJUSTMENT

- ANTI-PAL ADJUSTMENT

1. Input the PAL SPECIAL colour bar signal.
2. Set the PICTURE, COLOUR and BRT control to center click.
3. Confirm that there is no colour on the first anti-PAL signal frames at the right and left of the picture.
   If there is adjust to remove the anti-PAL colour at both side while tracking with RV302 (DELAY) and RV303 (PHASE).

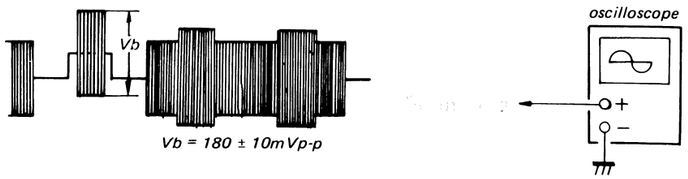
- LINE CRAWLING ADJUSTMENT

1. Input a PAL colour bar.
2. Set the PICTURE, COLOUR and BRT control to click center.
3. Observe the B-5 (4) (Blue) output waveform shown in the oscilloscope.
4. Adjust T301 for minimum line crawling.



ACC ADJUSTMENT

1. Input the PAL colour bar signal.
2. Set the PICTURE, COLOUR and BRT control to center click.
3. Observe IC301 pin (7) waveform and adjust RV304 (ACC) so that the waveform level is 180 ± 10m Vp-p.



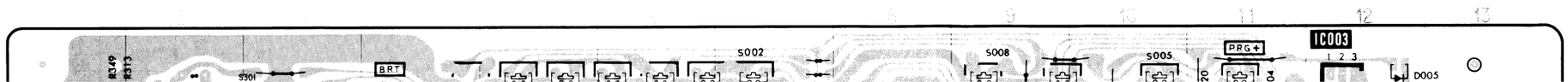
H·SIZE ADJUSTMENT

Adjust L806 for best size picture.

A·P·C· ADJUSTMENT

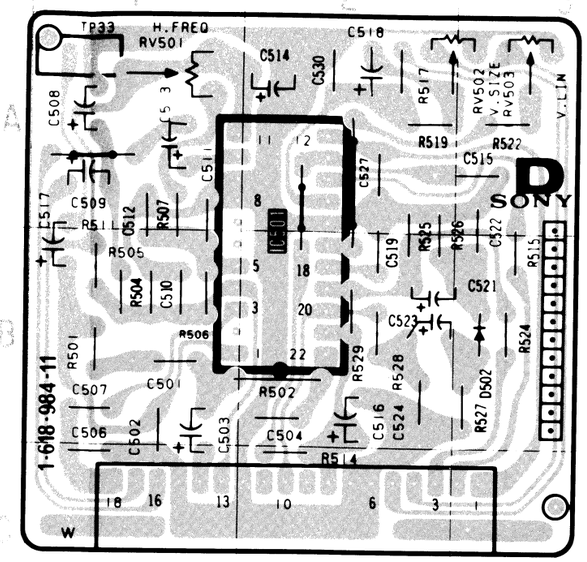
1. Input the PAL colour bar signal.
2. Set the PICTURE COLOUR and BRT control to center click.
3. Short circuit between pin (11) and pin (12) of IC301 with a jumper wire.
4. Adjust CV301 for suitable colour intencity.
5. Remove a jumper wire.

B [CPU, MEMORY, Y/C PROCESS / H. V OUT]



(KV-1442ECPS/RM-651)

D [H. V. JUNGLE]



CAPACITOR	VARIABLE RESISTOR
C501 C502 C503 C504 C506 C507 C508 C509 C510 C511 C512 C513 C514 C515 C516 C517 C518 C519 C521 C522 C523 C524 C527 C530 C502	RV501 RV502 RV503
TP	
	TP33
CONNECTOR	
W1	
IC	
IC501	
RESISTOR	
R501 R502 R504 R505 R506 R507 R511 R514 R515 R517 R519 R522 R524 R525 R526 R527 R528 R529	

H·FREQ ADJUSTMENT

TP 33 = A-1 , RV501 = A-1

1. *Input the PAL color bar signal.*
2. *Set the PICTURE, COLOUR and BRT control to center click.*
3. *Short circuit between pin and pin of TP33 with a jumper wire.*
4. *Adjust RV501 for the image shown below.*
5. *Remove a jumper wire.*
6. *Change tuner channel and confirm that picture does not change.*

fo: too low — *fo: suitable (fo = 15625 ± 50Hz)* — *fo: high*

V·size | V·LINE | V·CENT

Adjust RV502, RV503 and RV551 for a best vertical size picture.

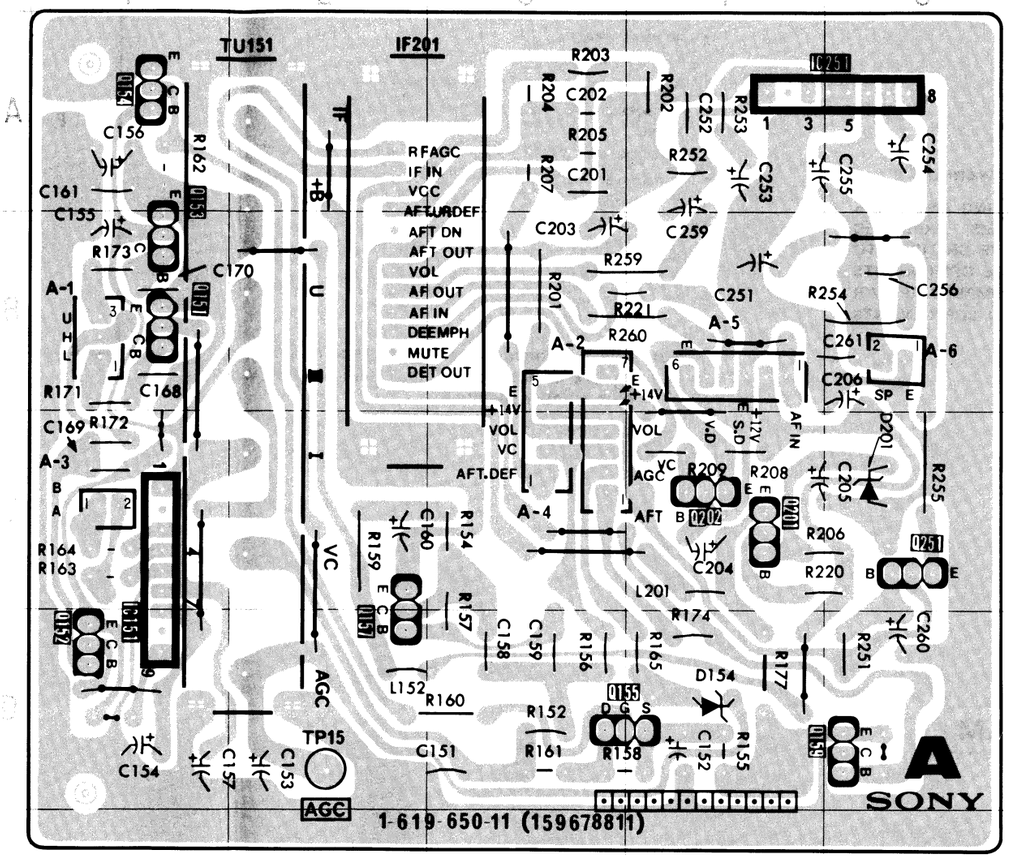
·SIZE ADJUSTMENT

djust L806 for best size picture.

·P·C· ADJUSTMENT

Input the PAL colour bar signal.
Set the PICTURE COLOUR and BRT control to center click.
Short circuit between pin (11) and pin (12) of IC301 with a jumper wire.
Adjust CV301 for suitable colour intencity.
Remove a jumper wire.

A [TUNER, AF OUT, AFT, AGC]



TU AGC ADJUSTMENT

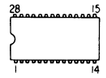
Adjust RF AGC so that snow-noise cross modulation adjust disappear from the picture.

CONNECTOR	TRANSISTOR
A1 A2 A5 A6	Q151 Q152 Q153 Q157 Q201 Q202 Q251
CAPACITOR	**RESISTOR**
C151 C153 C154 C155 C156 C157 C158 C159 C160 C161 C168 C169 C170 C201 C203 C204 C205 C206 C251 C252 C253 C254 C255 C256 C259 C260 C261	R152 R154 R156 R157 R159 R160 R165 R171 R172 R173 R174 R201 R202 R203 R206 R208 R209 R220 R221 R251 R252 R253 R254 R255 R259 R260
DIODE	**TUNER**
D154 D201	TU151
IC	
IC251	
IF	
IF201	
COIL	
L152 L201	

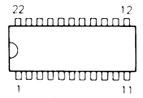
BX-1398

CX20061

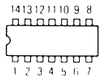
CX20100



µPC1377C

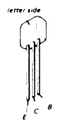


µPC1394C



DTA114ES
DTA124ES
DTA124XS
DTC144ES
2SA1048TP

2SC2785TP



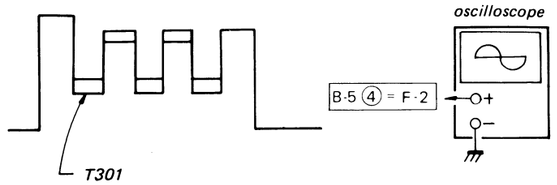
2SC2958
2SC2959
2SD773
2SD774

2SD1134

HZS10NB2T2
HZS11NT2
HZS11NB1T2
HZS11NB2T2
HZS11NB3T2
HZS13NB2T2
HZS15NT2
HZS15NB1T2
HZS15NB2T2
HZS15NB3T2
HZS5.6NT2
HZS5.6NB1T2
HZS5.6NB2T2
HZS5.6NB3T2

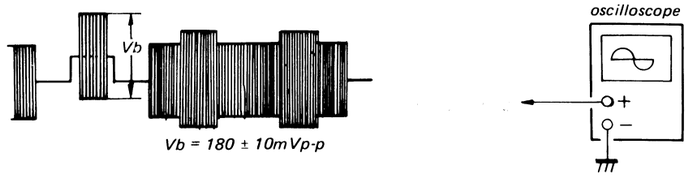
1. *Input the PAL SPECIAL colour bar signal.*
2. *Set the PICTURE, COLOUR and BRT control to center click.*
3. *Confirm that there is no colour on the first anti-PAL signal frames at the right and left of the picture.*
   If there is adjust to remove the anti-PAL colour at both side while tracking with RV302 (DELAY) and RV303 (PHASE).

1. *Input a PAL colour bar.*
2. *Set the PICTURE, COLOUR and BRT control to click center.*
3. *Observe the B-5 (4) (Blue) output waveform shown in the oscilloscope.*
4. *Adjust T301 for minimum line crawling.*



click.

3. *Observe IC301 pin (7) waveform and adjust RV304 (ACC) so that the waveform level is 180 ± 10m Vp-p.*



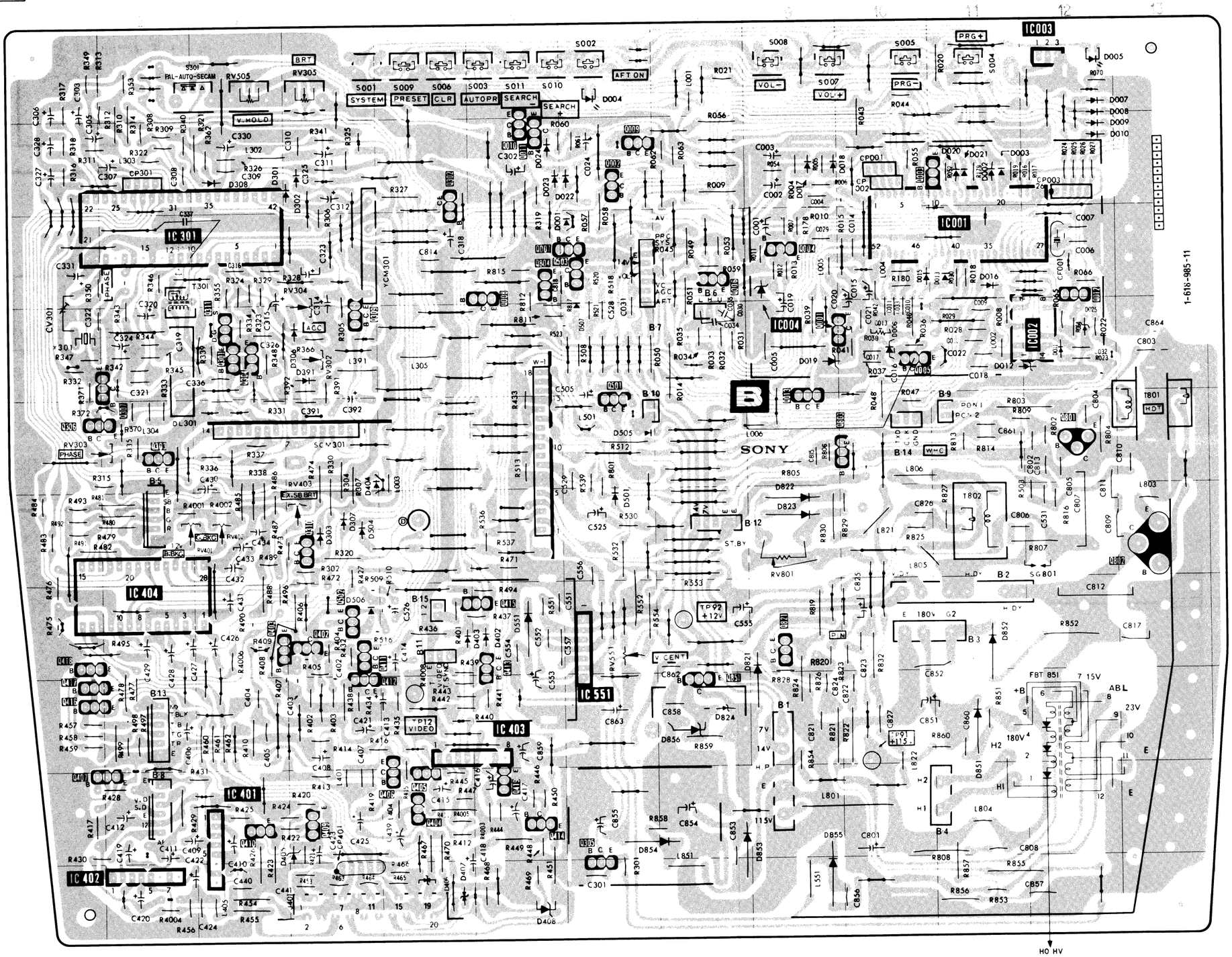
H·SIZE ADJUSTMENT

Adjust L806 for best size picture.

A·P·C· ADJUSTMENT

1. *Input the PAL colour bar signal.*
2. *Set the PICTURE COLOUR and BRT control to center click.*
3. *Short circuit between pin (11) and pin (12) of IC301 with a jumper wire.*
4. *Adjust CV301 for suitable colour intencity.*
5. *Remove a jumper wire.*

B [CPU, MEMORY, Y/C PROCESS / H. V OUT]



CONNECTOR			
B1	C323	C805	D011
B2	C324	C806	D012
B3	C325	C807	D015
B4	C326	C808	D016
B5	C327	C809	D017
B6	C328	C810	D018
B7	C330	C811	D019
B8	C331	C812	D020
B9	C336	C813	D022
B11	C337	C814	D023
	C391		
	C392	C815	D024
B12	C402	C817	D025
B13	C404	C818	D301
B14	C405	C821	D302
B15	C406	C822	D303
	C407	C823	D306
CAPACITOR	C408	C824	D307
	C409	C825	D308
C001	C410	C826	D391
C002	C411	C827	D402
C003			
C004	C412	C851	D403
C005	C413	C852	D405
C006	C414	C853	D406
C007	C415	C854	D407
C009	C416	C855	D408
C010	C417	C856	D501
C011	C418	C857	D504
	C419	C858	D551
	C420	C859	D821
C012	C421	C860	D822
C013			
C014	C422	C861	D823
C015	C423	C862	D824
C018	C424	C863	D851
C019	C425		D852
C020	C426	**CF**	D853
C021	C427		D854
C022	C428	CF001	D855
C024	C429		D856
	C430	**CP**	**DELAY LIN**
C034	C431		
C035		CP002	DL301
C301	C432	CP301	
C302	C433	CP401	**IC**
C303	C434		
C305	C439	**TRIMMER**	IC001
C306	C440		IC002
C307	C441	CV301	IC003
C308	C525		IC004
C309	C529	**DIODE**	IC301
	C531		IC401
C310	C551	D001	IC402
C311	C552	D002	IC403
C312	C553	D004	IC404
C314	C554	D005	IC551
C315	C555	D006	
C316	C556	D007	**JACK**
C319	C557	D008	
C320	C801	D009	J401
C321	C802	D010	
C322	C803		
	C804		

H·SIZE ADJUSTMENT

Adjust L806 for best size picture.

A·P·C· ADJUSTMENT

1. Input the PAL colour bar signal.
2. Set the PICTURE COLOUR and BRT control to center click.
3. Short circuit between pin (11) and pin (12) of IC301 with a jumper wire.
4. Adjust CV301 for suitable colour intencity.
5. Remove a jumper wire.

TOR

C323
C324
C325
C326
C327
C328
C330
C331
C336
C337
C391

C392
C402
C404
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OR

C412
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D011
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D019
D020
D022
D023

D024
D025
D301
D302
D303
D306
D307
D308
D391
D402

D403
D405
D406
D407
D408
D501
D504
D551
D821
D822

D823
D824
D851
D852
D853
D854
D855
D856

CF

CF001

CP

CP002
CP301
CP401

TRIMMER

CV301

DIODE

D001
D002
D004
D005
D006
D007
D008
D009
D010

DELAY LINE

DL301

IC

IC001
IC002
IC003
IC004
IC301
IC401
IC402
IC403
IC404
IC551

JACK

J401

COIL

L001
L002
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L004
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L006
L302
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L305

L391
L401
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L806

L821
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L851

TRANSISTOR

Q001
Q002
Q003
Q004
Q005
Q006
Q007

Q008
Q009
Q0010
Q0011
Q012
Q013
Q301
Q302
Q303
Q304

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Q416
Q417

Q418
Q419
Q801
Q803
Q804
Q821
Q851

RESISTOR

R004
R005
R006
R007
R008
R009
R010
R011
R012
R013

R014
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R857
R858
R859
R860
R4001

R4002
R4003
R4004
R4005
R4006

VARIABLE RESISTOR

RV302
RV303
RV304
RV305
RC401
RV402
RV403
RV505
RV551
RV801

SWITCH

S002
S003
S004
S005
S006
S007
S008
S009
S010
S011

S301

SPARK GAP

SG801

TRANS-FORMER

T301
T801
T802
T851

TP

TP12
TP91
TP92

CONNECTOR

W1

CRYSTAL

X301

MODULE

YCM301

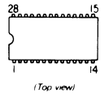
SCM

SCM301

BX-1398

CX20061

CX20100



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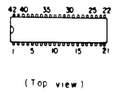

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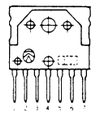

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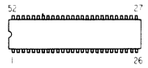

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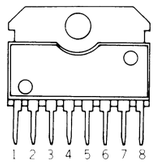

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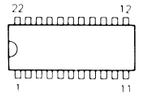

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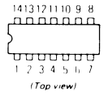

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DTA124XS
DTC144ES
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2SA1115TP
2SC1740S
2SC2458TP
2SC2603E
2SC2603TP
2SC403SP

2SA933S
2SC2120-Y

2SA1175TP

2SC1474
2SC1475
2SD788
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2SC2611
2SC2688

2SC2785TP

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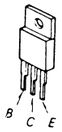

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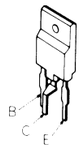

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RH1Z
SIB01-02V1

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GP08DPKG23
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RD11E-B
RD11E-B1
RD11E-B2
RD11E-B3
RD13E-B1
RD15E-B
RD15E-B1
RD15E-B2
RD15E-B3
RD33E-B2T
RD3.9E-B1
RD5.6E-B
RD5.6E-B1
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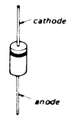

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HZS15NB3T2
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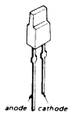
HZ6.2NB2T2

SLP161B



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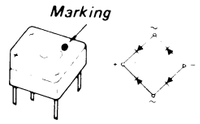

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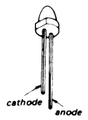
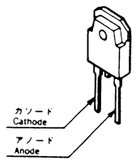
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